

SEQUENCE LISTING

<110> Zhang, Hong-Xia
Blumwald, Eduardo

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<151> 2002-07-12

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Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Met Asn Glu
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Ser Ile Thr Ala Leu Leu Ile Gly Leu Gly Thr Gly Val Thr Ile Leu
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Leu Ile Ser Lys Gly Lys Ser Ser His Leu Leu Val Phe Ser Glu Asp
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Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly Phe
      85           90           95
Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Val Thr Ile Met Leu
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Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr Ser Leu
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Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Val Phe
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Asn Ala Ile Gln Ser Phe Asp Leu Thr His Leu Asn His Glu Ala Ala
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Phe His Leu Leu Gly Asn Phe Leu Tyr Leu Phe Leu Leu Ser Thr Leu
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Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr Thr Trp
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Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu Tyr Val Gly Met
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Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp Thr Pro Gly
      325          330          335
Thr Ser Ile Ala Val Ser Ser Ile Leu Met Gly Leu Val Met Val Gly
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Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu Ala Lys
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Ile	Thr	Ser	Thr	Ile	Thr	Val	Cys	Leu	Phe	Ser	Thr	Val	Val	Phe	Gly
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Thr	Val	His	Tyr	Tyr	Trp	Arg	Gln	Phe	Asp	Asp	Ser	Phe	Met	Arg	Pro
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 385 390 395 400
 Ala Tyr Asn Gln Phe Thr Arg Gly Gly His Thr Gln Leu Arg Ala Asn
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 Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Val
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 Val Phe Gly Leu Met Thr Lys Pro Leu Ile Arg Ile Leu Leu Pro Ser
 435 440 445
 His Lys His Leu Ser Arg Met Ile Ser Ser Glu Pro Thr Thr Pro Lys
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 Ser Phe Ile Val Pro Leu Leu Asp Ser Thr Gln Asp Ser Glu Ala Asp
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 Leu Glu Arg His Val Pro Arg Pro His Ser Leu Arg Met Leu Leu Ser
 485 490 495
 Thr Pro Ser His Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asn Ala
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<212> PRT

<213> *Torenia hybrida*

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 Arg Trp Met Asn Glu Ser Ile Ile Ala Leu Ile Ile Gly Leu Ala Thr
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 Gly Val Ile Ile Leu Leu Ile Ser Gly Gly Lys Ser Ser His Leu Leu
 65 70 75 80
 Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Ala Leu Pro Pro Ile Ile
 85 90 95
 Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Ser Phe Phe Arg Asn Phe
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 Ala Thr Ile Met Met Phe Gly Ala Val Gly Thr Leu Ile Ser Phe Ile
 115 120 125
 Ile Ile Ser Leu Gly Thr Ile Ala Phe Phe Pro Lys Met Asn Met Arg
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 Leu Gly Val Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr
 145 150 155 160
 Asp Ser Val Cys Thr Leu Gln Val Leu Ser Gln Asp Glu Thr Pro Leu
 165 170 175
 Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser
 180 185 190
 Val Val Leu Phe Asn Ala Val Gln Asn Phe Asp Leu Pro His Met Ser

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Thr	Phe	Leu	Gly	Val	Gly	Ile	Gly	Leu	Leu	Cys	Ala	Tyr	Ile	Ile	Lys	
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Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu	Met	
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Met	Leu	Met	Ser	Tyr	Leu	Ser	Tyr	Ile	Met	Ala	Glu	Leu	Phe	Tyr	Leu	
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Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr	
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Gln	Gly	Leu	Ser	Val	Ala	Val	Ser	Ser	Ile	Leu	Val	Gly	Leu	Ile	Leu	
			340					345					350			
Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	
		355					360					365				
Ala	Lys	Lys	Asn	Ser	Ser	Asp	Lys	Ile	Ser	Phe	Arg	Gln	Gln	Ile	Ile	
	370					375					380					
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	
385					390					395					400	
Tyr	Asn	Lys	Phe	Thr	Thr	Ser	Gly	His	Thr	Ser	Leu	His	Glu	Asn	Ala	
				405					410					415		
Ile	Met	Ile	Thr	Ser	Thr	Val	Thr	Val	Val	Leu	Phe	Ser	Thr	Val	Val	
			420					425					430			
Phe	Gly	Leu	Met	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Leu	Pro	Pro	His	
		435					440					445				
Lys	Gln	Ile	Ala	Ser	Gly	His	Ser	Ser	Met	Thr	Thr	Ser	Glu	Pro	Ser	
	450					455					460					
Ser	Pro	Lys	His	Phe	Ala	Val	Pro	Leu	Leu	Asp	Asn	Gln	His	Asp	Ser	
465					470					475					480	
Glu	Ser	Asp	Met	Ile	Thr	Gly	Pro	Glu	Val	Ala	Arg	Pro	Thr	Ala	Leu	

				485					490					495			
Arg	Met	Leu	Leu	Arg	Thr	Pro	Thr	His	Thr	Val	His	Arg	Tyr	Trp	Arg		
			500					505					510				
Lys	Phe	Asp	Asp	Ser	Phe	Met	Arg	Pro	Val	Phe	Gly	Gly	Arg	Gly	Phe		
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<210> 8

<211> 575

<212> PRT

<213> Arabidopsis thaliana

<400> 8

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		20					25						30				
Ser	Phe	Val	Leu	Gly	His	Val	Leu	Arg	Arg	His	Arg	Phe	His	Tyr	Leu		
		35					40					45					
Pro	Glu	Ala	Ser	Gly	Ser	Leu	Leu	Ile	Gly	Leu	Ile	Val	Gly	Ile	Leu		
	50					55					60						
Ala	Asn	Ile	Ser	Asp	Thr	Glu	Thr	Ser	Ile	Arg	Phe	Cys	Pro	Pro	Pro		
65				70						75				80			
Ser	Ile	Pro	Glu	Phe	Ser	Leu	Leu	Ser	Phe	Pro	Arg	Ser	Leu	Val	Cys		
			85						90					95			
Ser	Phe	Tyr	Ser	Val	Ser	Gly	Arg	Gly	Leu	Ile	Ser	Thr	Lys	Ser	Ser		
		100						105					110				
Ser	Ser	Cys	Phe	Cys	Cys	Leu	Pro	Ser	Tyr	Tyr	Ile	Leu	Cys	Phe	Asn		
		115					120					125					
Ile	Cys	Ile	Ser	Ser	Phe	Lys	Phe	Ala	Ala	Ala	Met	Leu	Cys	Ile	Met		
	130					135					140						
Asp	Val	Ile	Phe	Leu	Asp	Ile	Ile	His	Leu	Phe	Glu	Pro	Ser	Gln	Val		
145				150						155				160			
Ser	Val	Phe	Asn	Leu	Asn	His	Ser	Phe	Leu	Thr	Leu	Glu	Pro	Leu	Leu		
			165					170					175				
Pro	Leu	Leu	Ser	Ser	Glu	Leu	Leu	Ser	Leu	Gln	Leu	Leu	Leu	Val	Val		
		180						185					190				
Cys	Tyr	Leu	Gly	Gly	Ser	Met	Tyr	Leu	Met	Tyr	Lys	Leu	Pro	Phe	Val		
	195						200					205					
Glu	Cys	Leu	Met	Phe	Gly	Ala	Leu	Ile	Ser	Ala	Thr	Asp	Pro	Val	Thr		
	210					215					220						
Val	Leu	Ser	Ile	Phe	Gln	Val	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Ser	Val		
225					230					235					240		
Ser	Thr	Gly	Tyr	Lys	Tyr	Ser	His	Asp	Val	Gly	Thr	Asp	Val	Asn	Leu		
			245					250						255			
Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn	Asp	Ala	Val	Ser	Phe		
	260							265					270				
Tyr	Tyr	Leu	Leu	Arg	Tyr	Trp	Ala	Leu	Pro	Phe	Lys	Thr	Met	Ser	Leu		
	275						280					285					
Val	Asn	Arg	Gln	Ser	Ser	Ser	Gly	Glu	His	Phe	Phe	Met	Val	Val	Ile		
	290					295					300						
Arg	Phe	Phe	Glu	Thr	Phe	Ala	Gly	Ser	Met	Ser	Ala	Gly	Leu	Ala	Ile		
305					310						315				320		
Ser	Phe	Leu	Asn	Ser	Phe	Tyr	Thr	Val	Val	Phe	Thr	Leu	Leu	Ile	Leu		
			325					330						335			

Ser	Glu	His	Ile	Val	Asn	Val	Met	Ser	Leu	Phe	Ser	Leu	Phe	Ser	Thr
			340					345					350		
Ser	Ile	His	Ala	Cys	Arg	Arg	Cys	Trp	Ser	Leu	Arg	His	Cys	Phe	Tyr
		355					360					365			
Thr	Leu	His	Arg	Asn	Cys	Asn	Arg	Arg	Val	Met	Lys	Arg	Tyr	Thr	Phe
	370					375					380				
Ser	Asn	Leu	Ser	Glu	Ala	Ser	Gln	Ser	Phe	Val	Ser	Ser	Phe	Phe	His
385					390					395					400
Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Thr	Phe	Ile	Tyr	Met	Gly	Phe
				405					410					415	
Asp	Ile	Ala	Met	Glu	Gln	His	Ser	Trp	Ser	His	Val	Gly	Ala	Val	Asn
		420						425					430		
Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu	Phe	Arg	Gln	Glu	Asn	Gln
	435						440					445			
Lys	Ile	Pro	Met	Lys	His	Gln	Lys	Ala	Leu	Trp	Tyr	Ser	Gly	Leu	Arg
	450					455					460				
Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln	Ser	Leu	His	Asp	Leu	Pro
465					470					475					480
Glu	Gly	His	Gly	Gln	Ile	Ile	Phe	Thr	Ala	Thr	Thr	Thr	Ile	Val	Val
				485					490					495	
Val	Thr	Val	Thr	Phe	Val	Leu	Leu	Ile	Gly	Gly	Ser	Thr	Gly	Lys	Met
			500					505					510		
Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Asp	Leu	Asp	Asp	Ser	Met	Ser
		515					520					525			
Glu	Val	Asn	Ser	Arg	Arg	Ser	Thr	Leu	Ile	Ser	Leu	Asn	Ile	Gly	Ala
	530					535					540				
Ser	Ser	Asp	Glu	Asp	Thr	Ser	Ser	Ser	Gly	Ser	Arg	Phe	Lys	Met	Lys
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<210> 9

<211> 1146

<212> PRT

<213> Arabidopsis thaliana

<400> 9

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			20					25					30		
Pro	Val	Asp	Ala	Val	Leu	Phe	Val	Gly	Met	Ser	Leu	Val	Leu	Gly	Ile
	35						40					45			
Ala	Ser	Arg	His	Leu	Leu	Arg	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Ala
	50					55					60				
Leu	Leu	Val	Ile	Gly	Ile	Ala	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Ala	Lys
65					70					75					80
His	Asn	Leu	Gly	Lys	Ile	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Glu	Ile
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Asp	Pro	Glu	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Ala	Leu	Leu	Phe	Glu
			100					105					110		
Ser	Ser	Phe	Ser	Met	Glu	Val	His	Gln	Ile	Lys	Arg	Cys	Leu	Gly	Gln
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Met	Val	Leu	Leu	Ala	Val	Pro	Gly	Val	Leu	Ile	Ser	Thr	Ala	Cys	Leu
	130					135					140				
Gly	Ser	Leu	Val	Lys	Val	Thr	Phe	Pro	Tyr	Glu	Trp	Asp	Trp	Lys	Thr

145					150				155					160	
Ser	Leu	Leu	Leu	Gly	Gly	Leu	Leu	Ser	Ala	Thr	Asp	Pro	Val	Ala	Val
				165					170					175	
Val	Ala	Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Leu	Ser	Thr	Ile
				180				185					190		
Ile	Glu	Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Thr	Ala	Ile	Val	Val	Phe
		195					200					205			
Gln	Leu	Phe	Leu	Lys	Met	Ala	Met	Gly	Gln	Asn	Ser	Asp	Trp	Ser	Ser
	210					215					220				
Ile	Ile	Lys	Phe	Leu	Leu	Lys	Val	Ala	Leu	Gly	Ala	Val	Gly	Ile	Gly
225						230				235					240
Leu	Ala	Phe	Gly	Ile	Ala	Ser	Val	Ile	Trp	Leu	Lys	Phe	Ile	Phe	Asn
				245					250					255	
Asp	Thr	Val	Ile	Glu	Ile	Thr	Leu	Thr	Ile	Ala	Val	Ser	Tyr	Phe	Ala
			260					265					270		
Tyr	Tyr	Thr	Ala	Gln	Glu	Trp	Ala	Gly	Ala	Ser	Gly	Val	Leu	Thr	Val
		275					280					285			
Met	Thr	Leu	Gly	Met	Phe	Tyr	Ala	Ala	Phe	Ala	Arg	Thr	Ala	Phe	Lys
	290					295					300				
Gly	Asp	Ser	Gln	Lys	Ser	Leu	His	His	Phe	Trp	Glu	Met	Val	Ala	Tyr
305					310					315					320
Ile	Ala	Asn	Thr	Leu	Ile	Phe	Ile	Leu	Ser	Gly	Val	Val	Ile	Ala	Glu
				325					330					335	
Gly	Ile	Leu	Asp	Ser	Asp	Lys	Ile	Ala	Tyr	Gln	Gly	Asn	Ser	Trp	Arg
			340					345				350			
Phe	Leu	Phe	Leu	Leu	Tyr	Val	Tyr	Ile	Gln	Leu	Ser	Arg	Val	Val	Val
		355					360					365			
Val	Gly	Val	Leu	Tyr	Pro	Leu	Leu	Cys	Arg	Phe	Gly	Tyr	Gly	Leu	Asp
	370					375					380				
Trp	Lys	Glu	Ser	Ile	Ile	Leu	Val	Trp	Ser	Gly	Leu	Arg	Gly	Ala	Val
385					390					395					400
Ala	Leu	Ala	Leu	Ser	Leu	Ser	Val	Lys	Gln	Ser	Ser	Gly	Asn	Ser	His
				405					410				415		
Ile	Ser	Lys	Glu	Thr	Gly	Thr	Leu	Phe	Leu	Phe	Phe	Thr	Gly	Gly	Ile
			420					425					430		
Val	Phe	Leu	Thr	Leu	Ile	Val	Asn	Gly	Ser	Thr	Thr	Gln	Phe	Val	Leu
		435					440					445			
Arg	Leu	Leu	Arg	Met	Asp	Ile	Leu	Pro	Ala	Pro	Lys	Lys	Arg	Ile	Leu
	450				455						460				
Glu	Tyr	Thr	Lys	Tyr	Glu	Met	Leu	Asn	Lys	Ala	Leu	Arg	Ala	Phe	Gln
465					470				475						480
Asp	Leu	Gly	Asp	Asp	Glu	Glu	Leu	Gly	Pro	Ala	Asp	Trp	Pro	Thr	Val
			485						490					495	
Glu	Ser	Tyr	Ile	Ser	Ser	Leu	Lys	Gly	Ser	Glu	Gly	Glu	Leu	Val	His
			500					505					510		
His	Pro	His	Asn	Gly	Ser	Lys	Ile	Gly	Ser	Leu	Asp	Pro	Lys	Ser	Leu
		515				520						525			
Lys	Asp	Ile	Arg	Met	Arg	Phe	Leu	Asn	Gly	Val	Gln	Ala	Thr	Tyr	Trp
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Glu	Met	Leu	Asp	Glu	Gly	Arg	Ile	Ser	Glu	Val	Thr	Ala	Asn	Ile	Leu
545					550				555						560
Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Gln	Val	Ser	Thr	Thr	Leu	Cys
			565					570						575	
Asp	Trp	Arg	Gly	Leu	Lys	Pro	His	Val	Asn	Phe	Pro	Asn	Tyr	Tyr	Asn
			580				585					590			
Phe	Leu	His	Ser	Lys	Val	Val	Pro	Arg	Lys	Leu	Val	Thr	Tyr	Phe	Ala
		595					600					605			

Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ala	Ala	Phe	Leu	Arg	610	615	620
Ala	His	Thr	Ile	Ala	Arg	Gln	Gln	Leu	Tyr	Asp	Phe	Leu	Gly	Glu	Ser	625	630	635
Asn	Ile	Gly	Ser	Ile	Val	Ile	Asn	Glu	Ser	Glu	Lys	Glu	Gly	Glu	Glu	645	650	655
Ala	Lys	Lys	Phe	Leu	Glu	Lys	Val	Arg	Ser	Ser	Phe	Pro	Gln	Val	Leu	660	665	670
Arg	Val	Val	Lys	Thr	Lys	Gln	Val	Thr	Tyr	Ser	Val	Leu	Asn	His	Leu	675	680	685
Leu	Gly	Tyr	Ile	Glu	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu	Glu	Glu	Lys	690	695	700
Glu	Ile	Ala	His	Leu	His	Asp	Ala	Val	Gln	Thr	Gly	Leu	Lys	Lys	Leu	705	710	715
Leu	Arg	Asn	Pro	Pro	Ile	Val	Lys	Leu	Pro	Lys	Leu	Ser	Asp	Met	Ile	725	730	735
Thr	Ser	His	Pro	Leu	Ser	Val	Ala	Leu	Pro	Pro	Ala	Phe	Cys	Glu	Pro	740	745	750
Leu	Lys	His	Ser	Lys	Lys	Glu	Pro	Met	Lys	Leu	Arg	Gly	Val	Thr	Leu	755	760	765
Tyr	Lys	Glu	Gly	Ser	Lys	Pro	Thr	Gly	Val	Trp	Leu	Ile	Phe	Asp	Gly	770	775	780
Ile	Val	Lys	Trp	Lys	Ser	Lys	Ile	Leu	Ser	Asn	Asn	His	Ser	Leu	His	785	790	795
Pro	Thr	Phe	Ser	His	Gly	Ser	Thr	Leu	Gly	Leu	Tyr	Glu	Val	Leu	Thr	805	810	815
Gly	Lys	Pro	Tyr	Leu	Cys	Asp	Leu	Ile	Thr	Asp	Ser	Met	Val	Leu	Cys	820	825	830
Phe	Phe	Ile	Asp	Ser	Glu	Lys	Ile	Leu	Ser	Leu	Gln	Ser	Asp	Ser	Thr	835	840	845
Ile	Asp	Asp	Phe	Leu	Trp	Gln	Glu	Ser	Ala	Leu	Val	Leu	Leu	Lys	Leu	850	855	860
Leu	Arg	Pro	Gln	Ile	Phe	Glu	Ser	Val	Ala	Met	Gln	Glu	Leu	Arg	Ala	865	870	875
Leu	Val	Ser	Thr	Glu	Ser	Ser	Lys	Leu	Thr	Thr	Tyr	Val	Thr	Gly	Glu	885	890	895
Ser	Ile	Glu	Ile	Asp	Cys	Asn	Ser	Ile	Gly	Leu	Leu	Leu	Glu	Gly	Phe	900	905	910
Val	Lys	Pro	Val	Gly	Ile	Lys	Glu	Leu	Ile	Ser	Ser	Pro	Ala	Ala		915	920	925
Leu	Ser	Pro	Ser	Asn	Gly	Asn	Gln	Ser	Phe	His	Asn	Ser	Ser	Glu	Ala	930	935	940
Ser	Gly	Ile	Met	Arg	Val	Ser	Phe	Ser	Gln	Gln	Ala	Thr	Gln	Tyr	Ile	945	950	955
Val	Glu	Thr	Arg	Ala	Arg	Ala	Ile	Ile	Phe	Asn	Ile	Gly	Ala	Phe	Gly	965	970	975
Ala	Asp	Arg	Thr	Leu	His	Arg	Arg	Pro	Ser	Ser	Leu	Thr	Pro	Pro	Arg	980	985	990
Ser	Ser	Ser	Ser	Asp	Gln	Leu	Gln	Arg	Ser	Phe	Arg	Lys	Glu	His	Arg	995	1000	1005
Gly	Leu	Met	Ser	Trp	Pro	Glu	Asn	Ile	Tyr	Ala	Lys	Gln	Gln	Gln	Glu	1010	1015	1020
Ile	Asn	Lys	Thr	Thr	Leu	Ser	Leu	Ser	Glu	Arg	Ala	Met	Gln	Leu	Ser	1025	1030	1035
Ile	Phe	Gly	Ser	Met	Val	Asn	Val	Tyr	Arg	Arg	Ser	Val	Ser	Phe	Gly	1045	1050	1055
Gly	Ile	Tyr	Asn	Asn	Lys	Leu	Gln	Asp	Asn	Leu	Leu	Tyr	Lys	Lys	Leu			

His Ala Phe Ala Thr Leu Ser Phe Val Ala Glu Val Phe Leu Phe Leu
 305 310 315 320
 Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Phe Val Ser
 325 330 335
 Asp Ser Pro Gly Ile Ser Val Ala Val Ser Ser Ile Leu Leu Gly Leu
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 Val Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Trp Leu Met
 355 360 365
 Asn Phe Ala Lys Lys Ser Gln Ser Glu Lys Val Thr Phe Asn Gln Gln
 370 375 380
 Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala
 385 390 395 400
 Leu Ala Tyr Asn Gln Phe Thr Arg Ser Gly His Thr Gln Leu Arg Gly
 405 410 415
 Asn Ala Ile Met Ile Thr Ser Thr Ile Ser Val Val Leu Phe Ser Thr
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 Met Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Met Phe Leu Leu Pro
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 Gln Pro Lys His Phe Thr Ser Cys Ser Thr Val Ser Asp Val Gly Ser
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 Pro Lys Ser Tyr Ser Leu Pro Leu Leu Glu Gly Asn Gln Asp Tyr Glu
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 Val Asp Val Gly Asn Gly Asn His Glu Asp Thr Thr Glu Pro Arg Thr
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 Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Asn Ala Pro Thr His
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 Thr Val His His Tyr Trp Arg Lys Phe Asp Asp Ser Phe Met Arg Pro
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<210> 11

<211> 985

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 11

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 35 40 45
 Gly Leu Ile Val Gly Pro Val Cys Leu Asn Trp Phe Asn Pro Leu Lys
 50 55 60
 Trp Gly Asn Ser Asp Ser Ile Thr Leu Glu Ile Thr Arg Ile Val Leu
 65 70 75 80
 Cys Leu Gln Ile Phe Ala Val Ala Val Glu Leu Pro Arg Lys Tyr Met
 85 90 95
 Leu Lys His Trp Val Ser Val Thr Met Leu Leu Leu Pro Val Met Thr
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 Ala Gly Trp Leu Ile Ile Gly Leu Phe Val Trp Ile Leu Ile Pro Gly
 115 120 125
 Leu Asn Phe Ser Ala Ser Leu Leu Ile Ser Ala Cys Ile Thr Ala Thr

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Val	Pro	Gly	His	Leu	Arg	Asn	Leu	Leu	Ser	Ala	Glu	Ser	Gly	Cys	Asn				
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Asp	Gly	Met	Ala	Phe	Pro	Phe	Leu	Phe	Leu	Ser	Met	Asn	Leu	Ile	Leu				
			180					185					190						
His	Pro	Gly	Asn	Gly	Arg	Glu	Ile	Val	Lys	Asp	Trp	Ile	Cys	Val	Thr				
	195					200						205							
Ile	Leu	Tyr	Glu	Cys	Leu	Phe	Gly	Cys	Leu	Leu	Gly	Cys	Phe	Ile	Gly				
	210					215					220								
Tyr	Val	Gly	Arg	Ile	Thr	Ile	Arg	Phe	Ala	Glu	Lys	Lys	Asn	Ile	Ile				
225					230					235					240				
Asp	Arg	Glu	Ser	Phe	Leu	Ala	Phe	Tyr	Val	Val	Leu	Ala	Phe	Met	Cys				
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Ala	Gly	Phe	Gly	Ser	Ile	Leu	Gly	Val	Asp	Asp	Leu	Leu	Val	Ser	Phe				
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Ala	Ala	Gly	Ala	Thr	Phe	Ala	Trp	Asp	Gly	Trp	Phe	Ser	Gln	Lys	Thr				
	275						280					285							
Gln	Glu	Ser	Asn	Val	Ser	Thr	Val	Ile	Asp	Leu	Leu	Leu	Asn	Tyr	Ala				
	290					295				300									
Tyr	Phe	Ile	Tyr	Phe	Gly	Ala	Ile	Ile	Pro	Trp	Ser	Gln	Phe	Asn	Asn				
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Gly	Glu	Ile	Gly	Thr	Asn	Val	Trp	Arg	Leu	Ile	Ile	Leu	Ser	Ile	Val				
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Val	Ile	Phe	Leu	Arg	Arg	Ile	Pro	Ala	Val	Met	Ile	Leu	Arg	Pro	Leu				
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	355					360						365							
Gly	Pro	Ile	Gly	Val	Gly	Ala	Ile	Phe	Ala	Ala	Ile	Leu	Ala	Arg	Gly				
	370					375					380								
Glu	Leu	Glu	Ser	Thr	Phe	Ser	Asp	Glu	Pro	Thr	Pro	Leu	Asn	Val	Val				
385					390					395					400				
Pro	Ser	Lys	Glu	Glu	Ser	Lys	His	Trp	Gln	Leu	Ile	Ala	Cys	Ile	Trp				
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Pro	Ile	Thr	Cys	Phe	Phe	Ile	Val	Thr	Ser	Ile	Ile	Val	His	Gly	Ser				
			420					425					430						
Ser	Val	Ala	Ile	Ile	Thr	Leu	Gly	Arg	His	Leu	Asn	Thr	Ile	Thr	Leu				
	435						440					445							
Thr	Lys	Thr	Phe	Thr	Thr	His	Thr	Thr	Asn	Gly	Asp	Asn	Gly	Lys	Ser				
	450					455					460								
Ser	Trp	Met	Gln	Arg	Leu	Pro	Ser	Leu	Asp	Lys	Ala	Gly	Arg	Ser	Phe				
465					470					475					480				
Ser	Leu	His	Arg	Met	Asp	Thr	Gln	Met	Thr	Leu	Ser	Gly	Asp	Glu	Gly				
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Glu	Ala	Glu	Glu	Gly	Gly	Gly	Arg	Lys	Gly	Leu	Ala	Gly	Gly	Glu	Asp				
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Glu	Glu	Gly	Leu	Asn	Asn	Asp	Gln	Ile	Gly	Ser	Val	Ala	Thr	Ser	Gly				
	515						520					525							
Ile	Pro	Ala	Arg	Pro	Ala	Gly	Gly	Met	Pro	Arg	Arg	Arg	Lys	Leu	Ser				
	530					535					540								
Arg	Lys	Glu	Lys	Arg	Leu	Asn	Arg	Arg	Gln	Lys	Leu	Arg	Asn	Lys	Gly				
545					550					555					560				
Arg	Glu	Ile	Phe	Ser	Ser	Arg	Ser	Lys	Asn	Glu	Met	Tyr	Asp	Asp	Asp				
			565						570					575					
Glu	Leu	Asn	Asp	Leu	Gly	Arg	Glu	Arg	Leu	Gln	Lys	Glu	Lys	Glu	Ala				
			580					585					590						

Met 1	Leu	Ser	Lys	Val 5	Leu	Leu	Asn	Ile	Ala 10	Phe	Lys	Val	Leu	Leu 15	Thr
Thr	Ala	Lys	Arg	Ala 20	Val	Asp	Pro	Asp	Asp	Asp	Asp	Glu	Leu	Leu	Pro
Ser	Pro	Asp	Leu	Pro 35	Gly	Ser	Asp	Asp	Pro	Ile	Ala	Gly	Asp	Pro	Asp
Val	Asp	Leu	Asn	Pro 50	Val	Thr	Glu	Glu	Met	Phe	Ser	Ser	Trp	Ala	Leu
Phe 65	Ile	Met	Leu	Leu 70	Leu	Leu	Ile	Ser	Ala	Leu	Trp	Ser	Ser	Tyr	Tyr
Leu	Thr	Gln	Lys	Arg 85	Ile	Arg	Ala	Val	His	Glu	Thr	Val	Leu	Ser	Ile
Phe	Tyr	Gly	Met	Val 100	Ile	Gly	Leu	Ile	Ile	Arg	Met	Ser	Pro	Gly	His
Tyr	Ile	Gln	Asp	Thr 115	Val	Thr	Phe	Asn	Ser	Ser	Tyr	Phe	Phe	Asn	Val
Leu	Leu	Pro	Pro	Ile 130	Ile	Leu	Asn	Ser	Gly	Tyr	Glu	Leu	Asn	Gln	Val
Asn 145	Phe	Phe	Asn	Asn 150	Met	Leu	Ser	Ile	Leu	Ile	Phe	Ala	Ile	Pro	Gly
Thr	Phe	Ile	Ser	Ala 165	Val	Val	Ile	Gly	Ile	Ile	Leu	Tyr	Ile	Trp	Thr
Phe	Leu	Gly	Leu	Glu 180	Ser	Ile	Asp	Ile	Ser	Phe	Ala	Asp	Ala	Met	Ser
Val	Gly	Ala	Thr	Leu 195	Ser	Ala	Thr	Asp	Pro	Val	Thr	Ile	Leu	Ser	Ile
Phe	Asn	Ala	Tyr	Lys 210	Val	Asp	Pro	Lys	Leu	Tyr	Thr	Ile	Ile	Phe	Gly
Glu 225	Ser	Leu	Leu	Asn 230	Asp	Ala	Ile	Ser	Ile	Val	Met	Phe	Glu	Thr	Cys
Gln	Lys	Phe	His	Gly 245	Gln	Pro	Ala	Thr	Phe	Ser	Ser	Val	Phe	Glu	Gly
Ala	Gly	Leu	Phe	Leu 260	Met	Thr	Phe	Ser	Val	Ser	Leu	Leu	Ile	Gly	Val
Leu	Ile	Gly	Ile	Leu 275	Val	Ala	Leu	Leu	Leu	Lys	His	Thr	His	Ile	Arg
Arg	Tyr	Pro	Gln	Ile 290	Glu	Ser	Cys	Leu	Ile	Leu	Leu	Ile	Ala	Tyr	Glu
Ser 305	Tyr	Phe	Phe	Ser 310	Asn	Gly	Cys	His	Met	Ser	Gly	Ile	Val	Ser	Leu
Leu	Phe	Cys	Gly	Ile 325	Thr	Leu	Lys	His	Tyr	Ala	Tyr	Tyr	Asn	Met	Ser
Arg	Arg	Ser	Gln	Ile 340	Thr	Ile	Lys	Tyr	Ile	Phe	Gln	Leu	Leu	Ala	Arg
Leu	Ser	Glu	Asn	Phe 355	Ile	Phe	Ile	Tyr	Leu	Gly	Leu	Glu	Leu	Phe	Thr
Glu	Val	Glu	Leu	Val 370	Tyr	Lys	Pro	Leu	Leu	Ile	Ile	Val	Ala	Ala	Ile
Ser 385	Ile	Cys	Val	Ala 390	Arg	Trp	Cys	Ala	Val	Phe	Pro	Leu	Ser	Gln	Phe
Val	Asn	Trp	Ile	Tyr 405	Arg	Val	Lys	Thr	Ile	Arg	Ser	Met	Ser	Gly	Ile
Thr	Gly	Glu	Asn	Ile 420	Ser	Val	Pro	Asp	Glu	Ile	Pro	Tyr	Asn	Tyr	Gln
Met	Met	Thr	Phe	Trp 435	Ala	Gly	Leu	Arg	Gly	Ala	Val	Gly	Val	Ala	Leu

Ala Leu Gly Ile Gln Gly Glu Tyr Lys Phe Thr Leu Leu Ala Thr Val
 450 455 460
 Leu Val Val Val Val Leu Thr Val Ile Ile Phe Gly Gly Thr Thr Ala
 465 470 475 480
 Gly Met Leu Glu Val Leu Asn Ile Lys Thr Gly Cys Ile Ser Glu Glu
 485 490 495
 Asp Thr Ser Asp Asp Glu Phe Asp Ile Glu Ala Pro Arg Ala Ile Asn
 500 505 510
 Leu Leu Asn Gly Ser Ser Ile Gln Thr Asp Leu Gly Pro Tyr Ser Asp
 515 520 525
 Asn Asn Ser Pro Asp Ile Ser Ile Asp Gln Phe Ala Val Ser Ser Asn
 530 535 540
 Lys Asn Leu Pro Asn Asn Ile Ser Thr Thr Gly Gly Asn Thr Phe Gly
 545 550 555 560
 Gly Leu Asn Glu Thr Glu Asn Thr Ser Pro Asn Pro Ala Arg Ser Ser
 565 570 575
 Met Asp Lys Arg Asn Leu Arg Asp Lys Leu Gly Thr Ile Phe Asn Ser
 580 585 590
 Asp Ser Gln Trp Phe Gln Asn Phe Asp Glu Gln Val Leu Lys Pro Val
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 Cys Ala Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp Met
 35 40 45
 Asn Glu Ser Ile Thr Ala Leu Ile Gly Leu Gly Thr Gly Val Val
 50 55 60
 Ile Leu Leu Ile Ser Arg Gly Lys Asn Ser His Leu Leu Val Phe Ser
 65 70 75 80
 Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala
 85 90 95
 Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Val Thr Ile
 100 105 110
 Met Ala Phe Gly Ala Ile Gly Thr Val Val Ser Cys Thr Ile Ile Ser
 115 120 125
 Leu Gly Ala Ile Gln Phe Phe Lys Lys Leu Asp Ile Gly Thr Phe Asp
 130 135 140
 Leu Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp Ser
 145 150 155 160
 Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr
 165 170 175
 Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val
 180 185 190
 Leu Phe Asn Ala Ile Gln Ser Phe Asp Leu Thr His Leu Asn His Glu

Cys Leu Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp Val Asn Glu
35 40 45
Ser Ile Thr Ala Ile Leu Val Gly Ala Ala Ser Gly Thr Val Ile Leu
50 55 60
Leu Ile Ser Lys Gly Lys Ser Ser His Ile Leu Val Phe Asp Glu Glu
65 70 75 80
Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly Phe
85 90 95
Gln Val Lys Lys Lys Lys Phe Phe His Asn Phe Leu Thr Ile Met Ser
100 105 110
Phe Gly Val Ile Gly Val Phe Ile Ser Thr Val Ile Ile Ser Phe Gly
115 120 125
Thr Trp Trp Leu Phe Pro Lys Leu Gly Phe Lys Gly Leu Ser Ala Arg
130 135 140
Asp Tyr Leu Ala Ile Gly Thr Ile Phe Ser Ser Thr Asp Thr Val Cys
145 150 155 160
Thr Leu Gln Ile Leu His Gln Asp Glu Thr Pro Leu Leu Tyr Ser Leu
165 170 175
Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Leu Phe
180 185 190
Asn Ala Val Gln Lys Ile Gln Phe Glu Ser Leu Thr Gly Trp Thr Ala
195 200 205
Leu Gln Val Phe Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser Thr Leu
210 215 220
Leu Gly Ile Gly Val Gly Leu Ile Thr Ser Phe Val Leu Lys Thr Leu
225 230 235 240
Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met Val Leu
245 250 255
Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ser Leu Ser Gly
260 265 270
Ile Leu Thr Val Phe Phe Cys Gly Val Leu Met Ser His Tyr Ala Ser
275 280 285
Tyr Asn Val Thr Glu Ser Ser Arg Ile Thr Ser Arg His Val Phe Ala
290 295 300
Met Leu Ser Phe Ile Ala Glu Thr Phe Ile Phe Leu Tyr Val Gly Thr
305 310 315 320
Asp Ala Leu Asp Phe Thr Lys Trp Lys Thr Ser Ser Leu Ser Phe Gly
325 330 335
Gly Thr Leu Gly Val Ser Gly Val Ile Thr Ala Leu Val Leu Leu Gly
340 345 350
Arg Ala Ala Phe Val Phe Pro Leu Ser Val Leu Thr Asn Phe Met Asn
355 360 365
Arg His Thr Glu Arg Asn Glu Ser Ile Thr Phe Lys His Gln Val Ile
370 375 380
Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
385 390 395 400
Phe Lys Gln Phe Thr Tyr Ser Gly Val Thr Leu Asp Pro Val Asn Ala
405 410 415
Ala Met Val Thr Asn Thr Thr Ile Val Val Leu Phe Thr Thr Leu Val
420 425 430
Phe Gly Phe Leu Thr Lys Pro Leu Val Asn Tyr Leu Leu Pro Gln Asp
435 440 445
Ala Ser His Asn Thr Gly Asn Arg Gly Lys Arg Thr Glu Pro Gly Ser
450 455 460
Pro Lys Glu Asp Ala Thr Leu Pro Leu Leu Ser Phe Asp Glu Ser Ala
465 470 475 480
Ser Thr Asn Phe Asn Arg Ala Lys Asp Ser Ile Ser Leu Leu Met Glu

				485					490					495			
Gln	Pro	Val	Tyr	Thr	Ile	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Thr		
			500					505					510				
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Cys																	

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			20					25					30				
Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Thr	Arg	Trp		
	35						40					45					
Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Ser	Cys	Thr	Gly	Ile		
	50					55					60						
Val	Ile	Leu	Leu	Ile	Ser	Gly	Gly	Lys	Ser	Ser	Arg	Ile	Leu	Val	Phe		
65					70				75					80			
Ser	Glu	Asp	Leu	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn			
			85					90					95				
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr		
			100					105					110				
Ile	Met	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile		
	115						120					125					
Ser	Phe	Gly	Ala	Lys	His	Leu	Phe	Glu	Lys	Met	Asn	Ile	Gly	Asp	Leu		
	130					135					140						
Thr	Ile	Ala	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp		
145					150					155					160		
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu	Leu		
			165					170						175			
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val		
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Val	Leu	Phe	Asn	Ala	Ile	Gln	Arg	Phe	Asp	Leu	Thr	Asn	Ile	Asn	Ser		
	195					200						205					
Ala	Ile	Ala	Leu	Glu	Phe	Ala	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Ile	Leu		
	210					215					220						
Ser	Thr	Ala	Leu	Gly	Val	Ala	Ala	Gly	Leu	Leu	Ser	Ala	Phe	Val	Ile		
225					230					235					240		
Lys	Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu		
			245					250						255			
Met	Met	Leu	Leu	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	His		
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Leu	Ser	Ser	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His		
		275					280					285					
Tyr	Thr	Trp	His	Asn	Val	Thr	Asp	Lys	Ser	Lys	Val	Thr	Thr	Lys	His		
	290					295					300						
Thr	Phe	Ala	Ala	Met	Ser	Phe	Leu	Ala	Glu	Ile	Phe	Ile	Phe	Leu	Tyr		
305				310						315					320		
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Asp	Val	Val	Arg	Asn		
				325				330						335			

Ser Pro Gly Gln Ser Ile Gly Val Ser Ser Ile Leu Leu Gly Leu Ile
 340 345 350
 Leu Leu Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Thr Lys Ser Ser Pro Asp Glu Lys Ile Asp Leu Lys Lys Gln Val
 370 375 380
 Thr Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu
 385 390 395 400
 Ala Tyr Asn Gln Phe Thr Thr Ser Gly His Thr Lys Val Leu Gly Asn
 405 410 415
 Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Val
 420 425 430
 Val Phe Gly Leu Leu Thr Lys Pro Leu Val Lys His Leu Gln Pro Ser
 435 440 445
 Ser Lys Gln Ser Ser Thr Thr Ala Leu Gln Ile Thr Leu Arg Ser Ser
 450 455 460
 Phe His Asp Pro Ile Leu His Glu Pro Leu Leu Ser Thr Gln Gly Gln
 465 470 475 480
 Ser Glu Tyr Asp Pro Glu Gln His Val Ser Phe Arg Met Phe Trp Lys
 485 490 495
 Ser Pro Ser Arg Ala Ile His His Tyr Trp Arg Lys Phe Asp Asn Ala
 500 505 510
 Val Met Arg Arg Ile Phe Gly Gly Arg Gly Val Ser Pro Val Val Pro
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 Asn Lys Glu Gln Asn Gly Glu Pro
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 Val Lys Gln Gln Gln Ala Ala Gly Val Gly Ile Leu Leu Gln Ile Met
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 Met Leu Val Leu Ser Phe Val Leu Gly His Val Leu Arg Arg His Arg
 35 40 45
 Phe His Tyr Leu Pro Glu Ala Ser Gly Leu Ile Val Gly Ile Leu Ala
 50 55 60
 Asn Ile Ser Asp Thr Glu Thr Ser Ile Arg Phe Cys Pro Pro Pro Ser
 65 70 75 80
 Ile Pro Glu Phe Ser Leu Leu Ser Phe Pro Arg Ser Leu Lys Pro Phe
 85 90 95
 Phe Ser Asn Phe Gly Ala Ile Val Thr Phe Ala Ile Ile Gly Thr Phe
 100 105 110
 Val Ala Ser Val Val Thr Gly Gly Leu Val Tyr Leu Gly Gly Ser Met
 115 120 125
 Tyr Leu Met Tyr Lys Leu Pro Phe Val Glu Cys Leu Met Phe Gly Ala
 130 135 140
 Leu Ile Ser Ala Thr Asp Pro Val Thr Val Leu Ser Ile Phe Gln Asp
 145 150 155 160
 Val Gly Thr Asp Val Asn Leu Tyr Ala Leu Val Phe Gly Glu Ser Val

				165					170					175			
Leu	Asn	Asp	Ala	Val	Ser	Phe	Tyr	Tyr	Leu	Leu	Arg	Tyr	Trp	Ala	Leu		
			180					185					190				
Pro	Phe	Lys	Phe	Phe	Glu	Thr	Phe	Ala	Gly	Ser	Met	Ser	Ala	Glu	His		
		195					200					205					
Leu	Phe	Lys	Tyr	Ala	Gly	Leu	Asp	Thr	Glu	Asn	Leu	Gln	Asn	Leu	Glu		
	210				215					220							
Cys	Cys	Leu	Phe	Val	Leu	Phe	Pro	Tyr	Phe	Ser	Tyr	Met	Leu	Ala	Glu		
225					230					235					240		
Gly	Val	Gly	Leu	Ser	Gly	Ile	Val	Ser	Ile	Leu	Phe	Thr	Gly	Ile	Val		
				245					250					255			
Met	Lys	Arg	Tyr	Thr	Phe	Ser	Asn	Leu	Ser	Glu	Ala	Ser	Gln	Ser	Phe		
			260					265					270				
Val	Ser	Ser	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Thr		
	275						280					285					
Phe	Ile	Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Gln	His	Ser	Trp	Ser		
	290					295					300						
His	Val	Gly	Phe	Ile	Leu	Phe	Ser	Ile	Val	Ser	Ser	Phe	Thr	Asp	Arg		
305					310					315					320		
Gln	Ala	Val	Asn	Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu	Phe	Arg		
			325					330						335			
Gln	Glu	Asn	Gln	Lys	Ile	Pro	Met	Lys	His	Gln	Lys	Ala	Leu	Trp	Tyr		
	340						345						350				
Ser	Gly	Leu	Arg	Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln	Ser	Leu		
	355					360						365					
His	Asp	Leu	Pro	Glu	Gly	His	Gly	Gln	Ile	Ile	Phe	Thr	Ala	Thr	Thr		
	370				375					380							
Thr	Ile	Val	Val	Val	Thr	Val	Leu	Leu	Ile	Gly	Gly	Ser	Thr	Gly	Lys		
385					390				395						400		
Met	Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Asp	Leu	Asp	Asp	Ser	Met		
			405					410						415			
Ser	Glu	Gly	Phe	Glu	Glu	Ser	Asp	His	Gln	Tyr	Val	Pro	Pro	Pro	Phe		
	420						425					430					
Ser	Ile	Gly	Ala	Ser	Ser	Asp	Glu	Asp	Thr	Ser	Ser	Ser	Gly	Ser	Arg		
	435					440						445					
Phe	Lys	Met	Lys	Leu	Lys	Glu	Phe	His	Lys	Thr	Thr	Thr	Ser	Phe	Thr		
	450				455					460							
Ala	Leu	Asp	Lys	Asn	Phe	Leu	Thr	Pro	Phe	Phe	Thr	Thr	Asn	Ser	Gly		
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Asp	Gly	Asp	Gly	Asp	Gly	Glu											
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 Met Met Leu Val Leu Ser Phe Val Leu Gly His Val Leu Arg Arg His
 35 40 45
 Lys Phe Tyr Tyr Leu Pro Glu Ala Ser Ala Ser Leu Leu Ile Gly Leu
 50 55 60

Ile	Val	Gly	Gly	Leu	Ala	Asn	Ile	Ser	Asn	Thr	Glu	Thr	Ser	Ile	Arg	65	70	75	80
Phe	Val	Glu	Leu	Phe	Leu	Ile	Ser	Phe	Phe	Arg	His	Gly	Ser	Ile	Ser	85	90	95	
Thr	Met	Ser	Ser	Ser	Phe	Cys	Phe	Cys	Cys	Leu	Pro	Ser	Tyr	Tyr	Ile	100	105	110	
Leu	Lys	Ile	Glu	Tyr	Leu	Gly	Gly	Val	Met	Phe	Leu	Met	Tyr	Arg	Leu	115	120	125	
Pro	Phe	Val	Glu	Cys	Leu	Met	Phe	Gly	Ser	Leu	Ile	Ser	Ala	Thr	Asp	130	135	140	
Pro	Val	Thr	Val	Leu	Ser	Ile	Phe	Gln	Glu	Leu	Gly	Ser	Asp	Val	Asn	145	150	155	160
Leu	Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn	Asp	Ala	Asp	Glu	165	170	175	
Ile	Val	Thr	Leu	Leu	Ile	Arg	Ser	Phe	Ser	Phe	Leu	Cys	Cys	Phe	Trp	180	185	190	
Gln	Met	Ala	Ile	Ser	Leu	Tyr	Arg	Thr	Met	Ser	Leu	Val	Arg	Ser	His	195	200	205	
Ser	Ser	Gly	Gln	Asn	Phe	Phe	Met	Val	Ile	Val	Arg	Phe	Leu	Glu	Thr	210	215	220	
Phe	Val	Gly	Ser	Met	Ser	Ala	Ala	Met	Lys	Tyr	Phe	Ile	Leu	Met	Tyr	225	230	235	240
Ser	Leu	Leu	Leu	Ser	Val	Tyr	Arg	Thr	Trp	Ser	Ala	Val	Ser	Ser	Tyr	245	250	255	
Phe	Phe	His	Ile	Ser	Arg	Asn	Lys	Thr	Leu	Leu	Phe	Tyr	Thr	Ser	Tyr	260	265	270	
Val	Ser	Ile	Tyr	Phe	Thr	Leu	Ile	Glu	Ile	Val	Gln	Phe	Val	Met	Lys	275	280	285	
His	Tyr	Thr	Tyr	Ser	Asn	Leu	Ser	Ala	Asn	Ser	Gln	Arg	Phe	Val	Ser	290	295	300	
Ala	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu	Thr	Phe	Val	Phe	Ile	305	310	315	320
Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Lys	His	Ser	Trp	Ala	Ala	Asn	325	330	335	
Val	Phe	Gly	Cys	Gly	Tyr	Leu	Val	Asn	Leu	Ala	Arg	Pro	Ala	His	Arg	340	345	350	
Lys	Ile	Pro	Met	Thr	His	Gln	Lys	Ala	Leu	Trp	Tyr	Ser	Gly	Lys	Ile	355	360	365	
Leu	Leu	Cys	Val	Pro	Leu	Ser	Ser	Tyr	Cys	Phe	Tyr	Ser	Ser	Val	Ile	370	375	380	
Asn	Thr	Lys	Ile	Cys	Gly	Phe	Cys	Ile	Gly	Leu	Arg	Gly	Ala	Met	Ala	385	390	395	400
Phe	Ala	Leu	Ala	Leu	Gln	Ser	Val	His	Asp	Leu	Pro	Glu	Gly	His	Gly	405	410	415	
Gln	Thr	Ile	Phe	Thr	Ala	Thr	Thr	Ala	Ile	Val	Val	Leu	Thr	Val	Leu	420	425	430	
Leu	Ile	Gly	Gly	Ser	Thr	Gly	Thr	Met	Leu	Glu	Ala	Leu	Glu	Val	Val	435	440	445	
Gly	Asp	Ser	His	Asp	Thr	Ser	Leu	Gly	Asp	Gly	Phe	Glu	Val	Val	Asn	450	455	460	
Ser	Arg	Tyr	Met	Thr	Ser	Tyr	Asp	Asp	Glu	Asp	Thr	Pro	Pro	Gly	Ser	465	470	475	480
Gly	Phe	Arg	Thr	Lys	Leu	Arg	Glu	Phe	His	Lys	Ser	Ala	Ala	Ser	Phe	485	490	495	
Thr	Glu	Leu	Asp	Arg	Asn	Tyr	Leu	Thr	Pro	Phe	Phe	Thr	Ser	Asn	Asn	500	505	510	
Gly	Asp	Tyr	Asp	Asp	Glu	Gly	Asn	Met	Glu	Gln	His	His	Gly	Asn	Asn				

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Ile Ile Leu
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		20						25					30		
Asp	Ala	Val	Ile	Phe	Ala	Gly	Thr	Ser	Leu	Val	Leu	Gly	Thr	Ala	Cys
	35					40						45			
Arg	Tyr	Leu	Phe	Asn	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Val	Leu	Leu
	50				55						60				
Val	Ile	Gly	Ile	Phe	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Thr	Lys	His	Asn
65					70					75				80	
Leu	Gly	Lys	Leu	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Gly	Ile	Asn	Pro
			85					90						95	
Asp	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Val	Leu	Leu	Phe	Glu	Ser	Ser
		100						105					110		
Phe	Ser	Met	Asp	Val	His	Gln	Ile	Lys	Arg	Cys	Met	Gly	Gln	Met	Val
	115					120						125			
Leu	Leu	Ala	Gly	Pro	Gly	Val	Leu	Ile	Ser	Thr	Phe	Cys	Leu	Gly	Ala
	130				135						140				
Leu	Ile	Lys	Leu	Thr	Phe	Pro	Tyr	Asn	Trp	Asp	Trp	Lys	Thr	Ser	Leu
145					150					155					160
Leu	Leu	Gly	Gly	Leu	Leu	Gly	Ala	Thr	Asp	Pro	Val	Ala	Val	Val	Ala
			165					170					175		
Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Met	Thr	Thr	Leu	Ile	Asp
		180						185					190		
Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Val	Ser	Val	Val	Val	Phe	Gln	Leu
	195					200						205			
Phe	Phe	Lys	Met	Val	Met	Gly	His	Asn	Ser	Asp	Trp	Gly	Ser	Ile	Ile
	210					215					220				
Lys	Phe	Leu	Val	Gln	Asn	Ser	Phe	Gly	Ala	Val	Gly	Ile	Gly	Leu	Ala
225				230						235					240
Phe	Gly	Ile	Ala	Ser	Val	Phe	Trp	Leu	Lys	Phe	Ile	Phe	Asn	Asp	Thr
			245						250					255	
Val	Ala	Gln	Ile	Thr	Val	Thr	Leu	Ser	Ala	Ser	Tyr	Phe	Ala	Tyr	Tyr
		260						265					270		
Thr	Ala	Gln	Glu	Trp	Ala	Gly	Val	Ser	Gly	Ile	Leu	Thr	Val	Met	Ile
	275					280						285			
Leu	Gly	Met	Phe	Phe	Ala	Ala	Phe	Ala	Arg	Thr	Ala	Phe	Lys	Gly	Asp
	290				295						300				
Ser	His	Gln	Ser	Leu	His	His	Phe	Trp	Tyr	Phe	Thr	Thr	Gln	Glu	Met
305					310					315					320
Ala	Ala	Tyr	Ile	Ala	Asn	Thr	Leu	Val	Phe	Met	Leu	Ser	Gly	Val	Ile
			325						330					335	
Ile	Ala	Glu	Ser	Val	Leu	Ser	Gly	Gln	Thr	Ile	Ser	Tyr	Lys	Ala	Ile
		340						345					350		
Lys	Trp	Lys	Phe	Ile	Ser	Gln	Phe	Arg	Tyr	Gly	Asn	Lys	Ala	Val	Leu
	355						360						365		

Gln	Phe	Leu	Phe	Leu	Thr	Gly	Gly	Ile	Val	Phe	Leu	Thr	Leu	Val	Val
370						375					380				
Asn	Gly	Ser	Thr	Thr	Gln	Leu	Leu	Leu	His	Leu	Leu	Arg	Met	Asp	Thr
385					390					395					400
Leu	Thr	Ala	Thr	Lys	Lys	Arg	Ile	Leu	Glu	Tyr	Thr	Lys	Phe	Glu	Met
				405					410					415	
Met	Lys	Thr	Ala	Leu	Lys	Ala	Phe	Glu	Asn	Leu	Gly	Asp	Asp	Glu	Glu
			420					425					430		
Leu	Gly	Ser	Ala	Asp	Trp	Pro	Thr	Val	Ile	Arg	His	Ile	Ser	Ser	Leu
		435					440					445			
Lys	Asp	Leu	Glu	Gly	Arg	Gln	Val	Asn	Pro	His	Asp	Gly	Tyr	Glu	Ala
450						455					460				
Gly	Ser	Leu	Asp	Pro	Thr	Asn	Ile	Met	Asp	Ile	Arg	Val	Gln	Ala	Ala
465					470					475					480
Tyr	Trp	Glu	Met	Leu	Asp	Asp	Gly	Arg	Ile	Thr	Gln	Cys	Thr	Ala	Asn
				485					490					495	
Val	Leu	Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Leu	Val	Ser	Thr	Ser
			500					505					510		
Ser	Leu	Ser	Asp	Trp	Arg	Gly	Leu	Glu	Pro	Arg	Val	His	Phe	Pro	Asn
		515					520					525			
Tyr	Tyr	Lys	Phe	Leu	Gln	Ser	Lys	Ile	Ile	Pro	His	Lys	Leu	Val	Thr
530					535						540				
His	Leu	Ile	Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ser	Ala
545					550					555					560
Phe	Leu	Arg	Ala	His	Arg	Ile	Ala	Arg	Gln	Leu	His	Ile	Phe	Leu	
				565					570					575	
Gly	Asn	Ser	Asn	Ile	Ala	Ser	Thr	Val	Ile	Asn	Glu	Ser	Glu	Val	Glu
			580					585					590		
Gly	Glu	Glu	Ala	Lys	Gln	Phe	Leu	Glu	Asp	Val	Arg	Asp	Ser	Phe	Pro
		595					600					605			
Gln	Val	Leu	Ser	Val	Leu	Lys	Thr	Arg	Gln	Val	Thr	His	Tyr	Val	Leu
610						615					620				
Asn	His	Leu	Asn	Gly	Tyr	Ile	Lys	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu
625				630						635					640
Glu	Gly	Lys	Glu	Val	Ser	His	Leu	His	Asp	Val	Val	Gln	Ser	Asp	Leu
				645					650					655	
Lys	Lys	Leu	Leu	Arg	His	Pro	Pro	Ser	Leu	Lys	Leu	Pro	Asn	Val	Asp
			660					665					670		
Asp	Leu	Ile	Thr	Ser	Asn	Pro	Leu	Leu	Lys	Asp	Arg	Ser	Ser	Phe	Arg
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Ser	Leu	Ala	Ile	Gly	Glu	Thr	Asp	Ala							
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<210> 19

<211> 697

<212> PRT

<213> Arabidopsis thaliana

<400> 19

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Ala	Ile	Ala	Ser	Ser	Ser	Tyr	Ser	Ala	Glu	Asn	Asp	Ser	Ser	Pro	Val
			20					25					30		
Asp	Ala	Val	Ile	Phe	Ala	Gly	Thr	Ser	Leu	Val	Leu	Gly	Thr	Ala	Cys
		35					40					45			
Arg	Tyr	Leu	Phe	Asn	Gly	Thr	Arg	Val	Pro	Tyr	Thr	Val	Val	Leu	Leu

50	55	60													
Val	Ile	Gly	Ile	Phe	Leu	Gly	Ser	Leu	Glu	Tyr	Gly	Thr	Lys	His	Asn
65					70					75					80
Leu	Gly	Lys	Leu	Gly	His	Gly	Ile	Arg	Ile	Trp	Asn	Gly	Ile	Asn	Pro
				85					90					95	
Asp	Leu	Leu	Leu	Ala	Val	Phe	Leu	Pro	Val	Leu	Leu	Phe	Glu	Ser	Ser
			100					105					110		
Phe	Ser	Met	Asp	Val	His	Gln	Ile	Lys	Arg	Cys	Met	Gly	Gln	Met	Val
	115						120					125			
Leu	Leu	Ala	Gly	Pro	Gly	Val	Leu	Ile	Ser	Thr	Phe	Cys	Leu	Gly	Ala
	130					135					140				
Leu	Ile	Lys	Leu	Thr	Phe	Pro	Tyr	Asn	Trp	Asp	Trp	Lys	Thr	Ser	Leu
145					150					155					160
Leu	Leu	Gly	Gly	Leu	Leu	Gly	Ala	Thr	Asp	Pro	Val	Ala	Val	Val	Ala
			165						170					175	
Leu	Leu	Lys	Glu	Leu	Gly	Ala	Ser	Lys	Lys	Met	Thr	Thr	Leu	Ile	Asp
	180							185				190			
Gly	Glu	Ser	Leu	Met	Asn	Asp	Gly	Val	Ser	Val	Val	Val	Phe	Gln	Leu
	195						200					205			
Phe	Phe	Lys	Met	Val	Met	Gly	His	Asn	Ser	Asp	Trp	Gly	Ser	Ile	Ile
	210					215					220				
Lys	Phe	Leu	Val	Gln	Asn	Ser	Phe	Gly	Ala	Val	Gly	Ile	Gly	Leu	Ala
225					230					235					240
Phe	Gly	Ile	Ala	Ser	Val	Phe	Trp	Leu	Lys	Phe	Ile	Phe	Asn	Asp	Thr
			245						250					255	
Val	Ala	Gln	Ile	Thr	Val	Thr	Leu	Ser	Ala	Ser	Tyr	Phe	Ala	Tyr	Tyr
		260						265					270		
Thr	Ala	Gln	Glu	Trp	Ala	Gly	Val	Ser	Gly	Ile	Leu	Thr	Val	Met	Ile
	275						280					285			
Leu	Gly	Met	Phe	Phe	Ala	Ala	Phe	Ala	Arg	Thr	Ala	Phe	Lys	Gly	Asp
	290					295					300				
Ser	His	Gln	Ser	Leu	His	His	Phe	Trp	Tyr	Phe	Thr	Thr	Gln	Glu	Met
305					310					315					320
Ala	Ala	Tyr	Ile	Ala	Asn	Thr	Leu	Val	Phe	Met	Leu	Ser	Gly	Val	Ile
			325						330					335	
Ile	Ala	Glu	Ser	Val	Leu	Ser	Gly	Gln	Thr	Ile	Ser	Tyr	Lys	Ala	Ile
		340						345					350		
Lys	Trp	Lys	Phe	Ile	Ser	Gln	Phe	Arg	Tyr	Gly	Asn	Lys	Ala	Val	Leu
	355						360					365			
Gln	Phe	Leu	Phe	Leu	Thr	Gly	Gly	Ile	Val	Phe	Leu	Thr	Leu	Val	Val
	370					375					380				
Asn	Gly	Ser	Thr	Thr	Gln	Leu	Leu	Leu	His	Leu	Leu	Arg	Met	Asp	Thr
385					390					395					400
Leu	Thr	Ala	Thr	Lys	Lys	Arg	Ile	Leu	Glu	Tyr	Thr	Lys	Phe	Glu	Met
			405						410					415	
Met	Lys	Thr	Ala	Leu	Lys	Ala	Phe	Glu	Asn	Leu	Gly	Asp	Asp	Glu	Glu
		420						425					430		
Leu	Gly	Ser	Ala	Asp	Trp	Pro	Thr	Val	Ile	Arg	His	Ile	Ser	Ser	Leu
	435						440					445			
Lys	Asp	Leu	Glu	Gly	Arg	Gln	Val	Asn	Pro	His	Asp	Gly	Tyr	Glu	Ala
	450					455					460				
Gly	Ser	Leu	Asp	Pro	Thr	Asn	Ile	Met	Asp	Ile	Arg	Val	Gln	Ala	Ala
465					470					475					480
Tyr	Trp	Glu	Met	Leu	Asp	Asp	Gly	Arg	Ile	Thr	Gln	Cys	Thr	Ala	Asn
			485						490					495	
Val	Leu	Met	Gln	Ser	Val	Asp	Glu	Ala	Leu	Asp	Leu	Val	Ser	Thr	Ser
		500						505					510		

Ser	Leu	Ser	Asp	Trp	Arg	Gly	Leu	Glu	Pro	Arg	Val	His	Phe	Pro	Asn
		515					520					525			
Tyr	Tyr	Lys	Phe	Leu	Gln	Ser	Lys	Ile	Ile	Pro	His	Lys	Leu	Val	Thr
	530					535				540					
His	Leu	Ile	Val	Glu	Arg	Leu	Glu	Ser	Ala	Cys	Tyr	Ile	Ser	Ser	Ala
545					550				555						560
Phe	Leu	Arg	Ala	His	Arg	Ile	Ala	Arg	Gln	Gln	Leu	His	Ile	Phe	Leu
			565						570					575	
Gly	Asn	Ser	Asn	Ile	Ala	Ser	Thr	Val	Ile	Asn	Glu	Ser	Glu	Val	Glu
		580						585					590		
Gly	Glu	Glu	Ala	Lys	Gln	Phe	Leu	Glu	Asp	Val	Arg	Asp	Ser	Phe	Pro
	595					600						605			
Gln	Val	Leu	Ser	Val	Leu	Lys	Thr	Arg	Gln	Val	Thr	His	Tyr	Val	Leu
610						615					620				
Asn	His	Leu	Asn	Gly	Tyr	Ile	Lys	Asn	Leu	Glu	Lys	Val	Gly	Leu	Leu
625					630				635						640
Glu	Gly	Lys	Glu	Val	Ser	His	Leu	His	Asp	Val	Val	Gln	Ser	Asp	Leu
			645						650					655	
Lys	Lys	Leu	Leu	Arg	His	Pro	Pro	Ser	Leu	Lys	Leu	Pro	Asn	Val	Asp
		660						665					670		
Asp	Leu	Ile	Thr	Ser	Asn	Pro	Leu	Leu	Lys	Asp	Arg	Ser	Ser	Phe	Arg
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Ser	Leu	Ala	Ile	Gly	Glu	Thr	Asp	Ala							
	690					695									

<210> 20

<211> 534

<212> PRT

<213> Lycopersicon esculentum

<400> 20

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Gly	Asp	Gln	Val	Ser	Val	Asp	Ser	Ile	Thr	Leu	Phe	Val	Ala	Leu	Leu
		20						25					30		
Cys	Gly	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Ser	Arg	Trp	Ile
	35					40						45			
Asn	Asp	Ser	Ile	Thr	Thr	Leu	Val	Ile	Gly	Leu	Ser	Thr	Gly	Gly	Ile
	50					55					60				
Ile	Leu	Leu	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Leu	Leu	Glu	Phe	Asp
65					70				75						80
Glu	Gln	Leu	Phe	Phe	Ile	Tyr	Val	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala
			85						90					95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Val	Thr	Ile
		100						105					110		
Met	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Ser	Ile	Ile	Ser
	115						120					125			
Phe	Gly	Ala	Lys	Glu	Leu	Leu	Gly	Lys	Leu	Asp	Ile	Gly	Phe	Leu	Glu
	130					135					140				
Leu	Arg	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser
145					150					155					160
Val	Cys	Thr	Leu	Gln	Ala	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Arg	Leu	Tyr
			165						170					175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val
	180							185					190		
Leu	Phe	Asn	Ala	Ile	Gln	Lys	Leu	Asp	Leu	Ser	His	Ile	Asn	Ser	Arg

Phe	Tyr	Tyr	Ile	Pro	Glu	Ala	Ser	Ala	Ser	Leu	Leu	Ile	Gly	Leu	Ile
50						55					60				
Val	Gly	Gly	Leu	Ala	Asn	Val	Ser	Asp	Thr	Glu	Thr	Ser	Ile	Arg	Ala
65					70					75					80
Trp	Phe	Asn	Phe	His	Glu	Glu	Phe	Phe	Phe	Leu	Phe	Leu	Leu	Pro	Pro
				85					90					95	
Ile	Ile	Phe	Gln	Ser	Gly	Phe	Ser	Leu	Ser	Pro	Lys	Pro	Phe	Phe	Ser
			100					105					110		
Asn	Phe	Gly	Ala	Ile	Ile	Thr	Phe	Ala	Ile	Leu	Gly	Thr	Phe	Ile	Ala
		115					120					125			
Ser	Phe	Val	Thr	Gly	Ile	Leu	Val	Tyr	Leu	Gly	Gly	Val	Thr	Tyr	Leu
	130					135					140				
Met	Tyr	Arg	Leu	Pro	Phe	Val	Glu	Cys	Leu	Met	Phe	Gly	Ala	Leu	Ile
145					150					155					160
Ser	Ala	Thr	Asp	Pro	Val	Thr	Val	Leu	Ser	Ile	Phe	Gln	Glu	Leu	Gly
			165						170					175	
Thr	Asp	Val	Asn	Leu	Tyr	Ala	Leu	Val	Phe	Gly	Glu	Ser	Val	Leu	Asn
			180						185					190	
Asp	Ala	Met	Ala	Ile	Ser	Leu	Tyr	Arg	Thr	Met	Ser	Leu	Val	Arg	Ser
	195						200					205			
His	Met	Ser	Thr	Asp	Gln	Asn	Tyr	Phe	Met	Ile	Thr	Ile	Arg	Phe	Val
	210					215					220				
Glu	Thr	Phe	Met	Gly	Ser	Leu	Ser	Ala	Gly	Val	Gly	Val	Gly	Phe	Val
225					230					235					240
Ser	Ala	Leu	Leu	Phe	Lys	Tyr	Ala	Gly	Leu	Asp	Ile	Asp	Asn	Leu	Gln
				245					250					255	
Asn	Leu	Glu	Ser	Cys	Leu	Phe	Val	Leu	Phe	Pro	Tyr	Phe	Ser	Tyr	Met
			260					265					270		
Leu	Ala	Glu	Gly	Leu	Gly	Leu	Ser	Gly	Ile	Val	Ser	Ile	Leu	Phe	Thr
	275						280					285			
Gly	Val	Val	Met	Lys	Arg	Tyr	Thr	Tyr	Pro	Asn	Leu	Ser	Glu	Ser	Ser
	290					295					300				
Gln	Arg	Phe	Val	Ser	Ala	Phe	Phe	His	Leu	Ile	Ser	Ser	Leu	Ala	Glu
305					310					315					320
Thr	Phe	Val	Phe	Ile	Tyr	Met	Gly	Phe	Asp	Ile	Ala	Met	Glu	Lys	His
				325					330					335	
Ser	Trp	Ser	His	Val	Gly	Phe	Ile	Phe	Phe	Ser	Ile	Leu	Phe	Ile	Val
			340					345					350		
Ile	Ala	Arg	Ala	Ala	Asn	Val	Phe	Gly	Cys	Ala	Tyr	Leu	Val	Asn	Leu
	355						360					365			
Val	Arg	Pro	Pro	His	Gln	Lys	Ile	Pro	Ala	Lys	His	Gln	Lys	Ala	Leu
	370					375					380				
Trp	Tyr	Ser	Gly	Leu	Arg	Gly	Ala	Met	Ala	Phe	Ala	Leu	Ala	Leu	Gln
385					390					395					400
Pro	Val	His	Asp	Leu	Pro	Glu	Gly	His	Gly	Gln	Ala	Ile	Phe	Thr	Ala
				405					410					415	
Thr	Thr	Ala	Ile	Val	Val	Leu	Thr	Val	Leu	Ile	Ile	Gly	Gly	Ser	Ala
			420					425					430		
Gly	Thr	Met	Leu	Glu	Ala	Leu	Glu	Val	Val	Gly	Asp	Gly	Gln	Ser	Gly
		435					440					445			
Ser	Met	Asp	Glu	Thr	Phe	Glu	Gly	Asn	Asn	Gly	Tyr	Ile	Ala	Pro	Ser
	450					455					460				
Tyr	Arg	Asp	Glu	Ser	Tyr	Asp	Gly	Glu	Pro	Ser	Ser	Gly	Asn	Arg	Phe
465					470					475					480
Arg	Met	Lys	Leu	Lys	Glu	Phe	His	Lys	Ser	Thr	Thr	Ser	Phe	Ser	Ala
				485					490					495	
Leu	Asp	Lys	Asn	Tyr	Leu	Thr	Pro	Phe	Phe	Thr	Thr	Gln	Gly	Gly	Asp

		500						505						510	
Glu	Asp	Glu	Asp	Glu	Pro	Ile	Met	His	Ser	Ser	Arg	Arg	Ala	Gly	Tyr
		515					520					525			
Asp	Gly	His													
		530													

<210> 22
 <211> 535
 <212> PRT
 <213> Oryza sativa

<400> 22

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Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Val
		35					40					45			
Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly	Val	Val
	50					55					60				
Ile	Leu	Leu	Met	Thr	Lys	Gly	Lys	Ser	Ser	His	Leu	Phe	Val	Phe	Ser
65					70					75					80
Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala
			85						90					95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr	Ile
			100					105					110		
Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr	Ile	Ser
		115					120					125			
Ile	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Arg	Met	Asn	Ile	Gly	Thr	Leu	Asp
	130					135					140				
Val	Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser
145					150					155					160
Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Phe	Leu	Tyr
			165						170					175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Ile	Val
		180						185					190		
Leu	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Leu	Val	His	Ile	Asp	Ala	Ala
		195					200					205			
Val	Val	Leu	Lys	Phe	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu	Ser	Ser
	210					215					220				
Thr	Phe	Leu	Gly	Val	Phe	Ala	Gly	Leu	Leu	Ser	Ala	Tyr	Ile	Ile	Lys
225					230					235					240
Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu	Met
			245						250					255	
Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Leu	Asp	Leu
		260						265				270			
Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr
		275					280					285			
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His	Ala
	290					295					300				
Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val
305					310					315					320
Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Glu	Phe	Ala	Ser	Asp	Arg
			325						330					335	
Pro	Gly	Lys	Ser	Ile	Gly	Ile	Ser	Ser	Ile	Leu	Leu	Gly	Leu	Val	Leu
		340						345					350		

Ile Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu
 355 360 365
 Thr Lys Lys Ala Pro Asn Glu Lys Ile Thr Trp Arg Gln Gln Val Val
 370 375 380
 Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
 385 390 395 400
 Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala
 405 410 415
 Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val
 420 425 430
 Phe Gly Met Met Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro Ala Ser
 435 440 445
 Gly His Pro Val Thr Ser Glu Pro Ser Ser Pro Lys Ser Leu His Ser
 450 455 460
 Pro Leu Leu Thr Ser Met Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
 465 470 475 480
 Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Thr Lys Pro Thr His
 485 490 495
 Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
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 Met Phe Gly Gly Arg Gly Phe Val Pro Phe Ser Pro Gly Ser Pro Thr
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 Glu Gln Ser His Gly Gly Arg
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<210> 23

<211> 553

<212> PRT

<213> Nierembergia caerulea

<400> 23

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 20 25 30
 Ile Cys Ala Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg Trp
 35 40 45
 Met Asn Glu Ser Ile Thr Ala Leu Val Ile Gly Ser Cys Thr Gly Val
 50 55 60
 Ile Ile Leu Leu Ile Ser Gly Gly Lys Asn Ser His Ile Leu Val Phe
 65 70 75 80
 Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn
 85 90 95
 Ala Gly Phe Gln Val Lys Lys Lys Ser Phe Phe Arg Asn Phe Ser Thr
 100 105 110
 Ile Met Leu Phe Gly Ala Val Gly Thr Leu Ile Ser Phe Ile Ile Ile
 115 120 125
 Ser Ala Gly Ala Ile Gly Ile Phe Lys Lys Met Asp Ile Gly His Leu
 130 135 140
 Glu Ile Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp
 145 150 155 160
 Ser Val Cys Thr Leu Gln Val Leu Asn Gln Glu Glu Thr Pro Leu Leu
 165 170 175
 Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val
 180 185 190
 Val Leu Phe Asn Ala Val Gln Asn Phe Asp Leu Ser His Ile Ser Thr

Pro	Cys	Ala	Ser	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Ser	Arg	Trp
	35						40					45			
Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Leu	Ile	Gly	Val	Cys	Ala	Gly	Val
	50					55					60				
Ile	Ile	Leu	Leu	Thr	Thr	Gly	Gly	Lys	Ser	Ser	His	Leu	Phe	Val	Phe
65				70					75					80	
Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Val	Leu	Pro	Pro	Ile	Ile	Phe	Asn
			85					90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr
		100						105					110		
Ile	Met	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Val	Ser	Cys	Thr	Ile	Ile
	115						120					125			
Ser	Leu	Gly	Val	Ile	Gln	Phe	Phe	Lys	Lys	Leu	Asp	Ile	Gly	Thr	Leu
	130					135					140				
Asp	Ile	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr	Asp
145				150						155				160	
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Asp	Thr	Pro	Leu	Leu
			165					170						175	
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val
			180					185					190		
Val	Leu	Phe	Asn	Ala	Ile	Gln	Ser	Phe	Asp	Leu	Thr	His	Ile	Asn	Thr
	195						200					205			
Arg	Ser	Ala	Phe	Gln	Phe	Ile	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Phe	Thr
	210					215					220				
Ser	Thr	Leu	Leu	Gly	Val	Ile	Gly	Gly	Leu	Leu	Ser	Ala	Tyr	Val	Ile
225				230						235				240	
Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile
			245					250						255	
Met	Val	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	Tyr
		260						265					270		
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His
	275						280					285			
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His
	290					295					300				
Thr	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Ile	Phe	Thr	Phe	Leu	Tyr
305				310						315				320	
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Phe	Val	Lys	Gly
			325						330					335	
Ser	Pro	Gly	Thr	Ser	Val	Ala	Ala	Ser	Ala	Met	Leu	Met	Gly	Leu	Ile
		340						345				350			
Met	Ala	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Thr	Asn
	355					360						365			
Leu	Ala	Lys	Lys	Ser	Pro	Thr	Glu	Lys	Ile	Ser	Ile	Lys	Gln	Gln	Val
	370					375					380				
Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala	Leu
385				390						395				400	
Ala	Tyr	Asn	Gln	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	Arg	Glu	Asn
			405						410					415	
Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr	Val
			420					425				430			
Val	Phe	Gly	Leu	Met	Thr	Glu	Pro	Leu	Ile	Arg	Leu	Leu	Leu	Pro	His
	435						440				445				
Pro	Lys	His	Thr	Thr	Asn	His	Ile	Leu	Ser	Asp	Pro	Ser	Thr	Pro	Lys
	450				455					460					
Ser	Leu	Ser	Gln	Pro	Leu	Glu	Glu	Gly	Gln	Gln	Asp	Ser	Tyr	Ala	
465				470					475					480	
Asp	Leu	Val	Gly	Pro	Thr	Val	Pro	Arg	Pro	Gly	Ser	Leu	Arg	Ala	Leu

				485					490					495			
Leu	Thr	Thr	Pro	Thr	His	Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp		
			500					505					510				
Asp	Ala	Phe	Met	Arg	Pro	Val	Phe	Gly	Gly	Arg	Gly	Phe	Ala	Pro	Phe		
		515					520					525					
Val	Pro	Gly	Ser	Pro	Thr	Glu	Arg	Ser	Val	Arg	Gly	Gly	Gln				
	530					535					540						

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<211> 546

<212> PRT

<213> Triticum aestivum

<400> 25

Met	Gly	Leu	Asp	Leu	Gly	Ala	Leu	Ala	Leu	Lys	Tyr	Thr	Gly	Leu	Ala		
1				5				10						15			
Val	Ser	Asp	His	Asp	Ser	Ile	Val	Ala	Ile	Asn	Ile	Phe	Ile	Ala	Leu		
			20					25					30				
Leu	Cys	Gly	Cys	Ile	Val	Phe	Gly	His	Leu	Leu	Glu	Gly	Asn	Arg	Trp		
		35					40					45					
Val	Asn	Glu	Ser	Thr	Thr	Ala	Leu	Val	Leu	Gly	Leu	Ile	Thr	Gly	Gly		
	50					55					60						
Val	Ile	Leu	Ile	Cys	Thr	Lys	Gly	Val	Asn	Ser	Arg	Ile	Leu	Ile	Phe		
65					70					75					80		
Ser	Glu	Asp	Ile	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn		
				85					90					95			
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ala	Thr		
			100					105					110				
Ile	Ile	Leu	Phe	Gly	Ala	Ala	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile		
	115						120					125					
Thr	Phe	Gly	Ala	Met	Gly	Leu	Phe	Ser	Lys	Leu	Asp	Val	Gly	Pro	Leu		
	130					135					140						
Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp		
145					150					155					160		
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Ala	Pro	Leu	Leu		
				165					170					175			
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val		
		180						185					190				
Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	Ile	Asp	Ile	Asn	His	Phe	Asp	Val		
	195					200					205						
Phe	Val	Leu	Leu	Gln	Phe	Ile	Gly	Lys	Phe	Leu	Tyr	Leu	Phe	Phe	Thr		
	210					215					220						
Ser	Thr	Val	Leu	Gly	Val	Ala	Ala	Gly	Leu	Leu	Ser	Ala	Tyr	Ile	Ile		
225					230					235					240		
Lys	Lys	Leu	Cys	Phe	Ala	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile		
				245					250					255			
Met	Ile	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ser	Met	Leu	Leu	Asp		
		260						265					270				
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser	His		
		275					280					285					
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys	His		
	290					295					300						
Thr	Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Ile	Phe	Leu	Phe	Leu	Tyr		
305					310					315					320		
Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Lys	Leu	Ala	Ser	Ser		
				325					330					335			

Ser Pro Lys Lys Pro Ile Ala Leu Ser Ala Val Ile Leu Gly Leu Val
 340 345 350
 Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Ser Lys Lys Glu Ser His Pro Lys Ile Ser Phe Asn Gln Gln Val
 370 375 380
 Ile Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu
 385 390 395 400
 Ala Tyr Asn Lys Phe Thr Thr Ser Gly His Thr Ala Val Arg Val Asn
 405 410 415
 Ala Val Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met
 420 425 430
 Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro Pro
 435 440 445
 Arg Pro Gly Thr Ala Ala Asp Ile Ser Ser Gln Ser Phe Leu Asp Pro
 450 455 460
 Leu Thr Ala Ser Leu Leu Gly Ser Asp Phe Asp Val Gly Gln Leu Thr
 465 470 475 480
 Pro Gln Thr Asn Leu Gln Tyr Leu Leu Thr Met Pro Thr Arg Ser Val
 485 490 495
 His Arg Val Trp Arg Lys Phe Asp Asp Lys Phe Met Arg Pro Met Phe
 500 505 510
 Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Ile Glu Arg
 515 520 525
 Ser Val His Gly Pro Gly Leu Leu Gly Thr Val Thr Glu Ala Glu Asp
 530 535 540
 Arg Ser
 545

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 <212> PRT
 <213> Triticum aestivum

<400> 26
 Met Gly Tyr Gln Val Val Ala Ala Gln Leu Ala Arg Leu Ser Gly Ala
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 Leu Gly Thr Ser Asp His Ala Ser Val Val Ser Ile Thr Leu Phe Val
 20 25 30
 Ala Leu Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn
 35 40 45
 Arg Trp Leu Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr
 50 55 60
 Gly Val Val Ile Leu Met Thr Thr Lys Gly Lys Ser Ser His Val Leu
 65 70 75 80
 Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile
 85 90 95
 Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe
 100 105 110
 Met Ala Ile Thr Leu Phe Gly Ala Val Gly Thr Met Met Ser Phe Phe
 115 120 125
 Thr Ile Ser Leu Ala Ala Ile Ala Ile Phe Ser Arg Met Asn Ile Gly
 130 135 140
 Thr Leu Asp Val Ser Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala
 145 150 155 160
 Thr Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro

Val Ser Asp His Asp Ser Ile Val Ala Ile Asn Ile Phe Ile Ala Leu
20 25 30
Leu Cys Gly Cys Ile Val Phe Gly His Leu Leu Gly Gly Asn Arg Trp
35 40 45
Val Asn Glu Ser Thr Ala Ala Leu Val Leu Gly Leu Ile Thr Gly Gly
50 55 60
Val Ile Leu Ile Cys Thr Lys Gly Val Asn Ser Arg Ile Leu Ile Phe
65 70 75 80
Ser Glu Asp Ile Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn
85 90 95
Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ala Thr
100 105 110
Ile Ile Leu Phe Gly Ala Ala Gly Thr Leu Ile Ser Phe Val Ile Ile
115 120 125
Thr Phe Gly Ala Met Gly Leu Phe Ser Lys Leu Asp Val Gly Pro Leu
130 135 140
Glu Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp
145 150 155 160
Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Ala Pro Leu Leu
165 170 175
Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val
180 185 190
Val Leu Phe Asn Ala Ile Gln Asn Ile Asp Ile Asn His Phe Asp Val
195 200 205
Phe Gly Leu Leu Gln Phe Ile Gly Lys Phe Leu Tyr Leu Phe Phe Thr
210 215 220
Ser Thr Val Leu Gly Val Ala Ala Gly Leu Leu Ser Ala Tyr Ile Ile
225 230 235 240
Lys Lys Leu Cys Phe Ala Arg His Ser Thr Asp Arg Glu Val Ala Ile
245 250 255
Met Ile Leu Met Ala Tyr Leu Ser Cys Met Leu Ser Met Leu Leu Asp
260 265 270
Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His
275 280 285
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys His
290 295 300
Thr Phe Ala Thr Leu Ser Phe Ile Ala Glu Ile Phe Leu Phe Leu Tyr
305 310 315 320
Val Gly Met Asp Ala Leu Asp Ile Asp Lys Trp Lys Leu Ala Ser Ser
325 330 335
Ser Pro Lys Lys Pro Ile Ala Leu Ser Ala Val Ile Leu Gly Leu Val
340 345 350
Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
355 360 365
Leu Ser Lys Lys Glu Ser His Pro Lys Ile Ser Phe Asn Gln Gln Val
370 375 380
Ile Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu
385 390 395 400
Ala Tyr Asn Lys Phe Thr Thr Ser Gly His Thr Ala Val Arg Val Asn
405 410 415
Ala Val Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met
420 425 430
Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro Pro
435 440 445
Arg Pro Gly Thr Ala Ala Asp Ile Ser Ser Gln Ser Phe Leu Asp Pro
450 455 460
Leu Thr Ala Ser Leu Leu Gly Ser Asp Phe Asp Val Gly Gln Leu Thr

465					470					475				480	
Pro	Gln	Thr	Asn	Leu	Gln	Tyr	Leu	Leu	Thr	Met	Pro	Thr	Arg	Ser	Ala
				485					490					495	
His	Arg	Val	Trp	Arg	Lys	Phe	Asp	Asp	Lys	Phe	Met	Arg	Pro	Met	Phe
			500					505					510		
Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Ile	Glu	Arg
		515					520					525			
Ser	Val	His	Gly	Pro	Gly	Leu	Leu	Gly	Thr	Val	Thr	Glu	Ala	Glu	Asp
	530					535					540				
Arg	Ser														
545															

<210> 28
 <211> 540
 <212> PRT
 <213> Zea mays

<400> 28

Met	Gly	Leu	Gly	Val	Val	Ala	Glu	Leu	Val	Arg	Leu	Gly	Val	Leu	Ser
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Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val	Ala
			20					25				30			
Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Val	Asn	Glu	Ser	Thr	Ala	Leu	Ile	Val	Gly	Leu	Gly	Thr	Gly	Thr
	50					55				60					
Val	Ile	Leu	Met	Ile	Ser	Arg	Gly	Val	Val	Ile	His	Val	Leu	Val	Phe
65					70				75						80
Ser	Glu	Asp	Leu	Phe	Phe	Phe	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn
				85				90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr
			100					105				110			
Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Thr	Val	Ile
	115						120					125			
Ser	Leu	Gly	Ala	Leu	Gly	Leu	Ile	Ser	Arg	Leu	Asn	Ile	Gly	Ala	Leu
	130					135					140				
Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp
145				150					155					160	
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Phe	Leu
			165					170					175		
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val
		180						185					190		
Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His	Ile	Asp	Ala
		195					200					205			
Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu	Leu
	210					215					220				
Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val	Ile
225					230					235				240	
Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala	Leu
				245					250				255		
Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe	Ala
		260						265					270		
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val	Met	Ser	His
	275					280						285			
Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Thr	Lys	His
	290					295					300				

Ala Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Leu Phe Leu Tyr
 305 310 315 320
 Val Gly Met Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp
 325 330 335
 Thr Pro Gly Lys Ser Leu Ala Ile Ser Ser Ile Leu Met Gly Leu Val
 340 345 350
 Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn
 355 360 365
 Leu Ala Lys Lys Thr Glu His Glu Lys Ile Ser Trp Lys Gln Gln Val
 370 375 380
 Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu
 385 390 395 400
 Ala Tyr Lys Lys Phe Thr Arg Ala Gly His Thr Gln Val Arg Gly Asn
 405 410 415
 Ala Ile Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met
 420 425 430
 Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro His
 435 440 445
 Arg Asn Ala Thr Ser Met Leu Ser Asp Asp Ser Ser Pro Lys Ser Leu
 450 455 460
 His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Asp Leu Glu Glu Pro
 465 470 475 480
 Thr Asn Ile Pro Arg Pro Ser Ser Ile Arg Gly Glu Phe Leu Thr Met
 485 490 495
 Thr Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Ala Phe Met
 500 505 510
 Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser
 515 520 525
 Pro Thr Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
 530 535 540

<210> 29
 <211> 540
 <212> PRT
 <213> Zea mays

<400> 29
 Met Gly Leu Gly Val Asp Ala Glu Thr Val Arg Leu Gly Val Leu Ser
 1 5 10 15
 Ser Thr Ser Asp His Ala Ser Val Val Ser Asn Asn Phe Phe Val Ala
 20 25 30
 Leu Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg
 35 40 45
 Met Val Asn Glu Ser Ile Thr Ala Leu Leu Val Gly Leu Gly Thr Gly
 50 55 60
 Thr Val Ile Leu Met Ile Ser Arg Gly Val Ser Ile His Val Leu Val
 65 70 75 80
 Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe
 85 90 95
 Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile
 100 105 110
 Thr Ile Ile Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Phe Val Ile
 115 120 125
 Ile Ser Leu Gly Ala Met Gly Leu Phe Lys Lys Leu Asp Val Gly Pro
 130 135 140
 Leu Glu Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr

145					150				155				160
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr
					165				170				175
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala
					180				185				190
Ile	Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His
					195				200				205
Ala	Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Leu	Tyr	Leu
					210				215				220
Leu	Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala
					225				230				235
Ile	Lys	Lys	Ile	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu
					245				250				255
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu
					260				265				270
Ala	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val
					275				280				285
His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr
					290				295				300
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Leu	Ala	Glu	Thr	Phe	Ile
					305				310				315
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Arg	Ser
					325				330				335
Asp	Thr	Pro	Gly	Lys	Ser	Ile	Ala	Ile	Ser	Ser	Ile	Leu	Met
					340				345				350
Val	Met	Leu	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe
					355				360				365
Asn	Leu	Ala	Lys	Lys	Asn	Glu	His	Glu	Lys	Ile	Ser	Trp	Lys
					370				375				380
Val	Val	Ile	Trp	Trp	Ser	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser
					385				390				395
Leu	Ala	Tyr	Asn	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Glu	Val
					405				410				415
Asn	Glu	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe
					420				425				430
Val	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu
					435				440				445
His	Arg	His	Leu	Thr	Met	Leu	Ser	Asp	Asp	Ser	Thr	Pro	Lys
					450				455				460
His	Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Ser	Ile	Glu
					465				470				475
Thr	Gln	Ile	Pro	Arg	Pro	Thr	Asn	Ile	Arg	Gly	Glu	Phe	Thr
					485				490				495
Thr	Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Lys
					500				505				510
Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro
					515				520				525
Pro	Thr	Glu	Arg	Asn	Pro	His	Asp	Leu	Ser	Lys	Pro		
					530				535				540

<210> 30
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 <212> PRT
 <213> Zea mays

<400> 30

Met	Ser	Ile	Gly	Leu	Thr	Ala	Glu	Thr	Val	Thr	Asn	Lys	Leu	Ala	Ser	1	5	10	15
Ala	Glu	His	Pro	Gln	Val	Val	Pro	Asn	Ser	Val	Phe	Ile	Ala	Leu	Leu	20	25	30	
Cys	Leu	Cys	Leu	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Val	35	40	45	
Asn	Glu	Ser	Ile	Thr	Ala	Ile	Leu	Val	Gly	Ala	Ala	Thr	Gly	Thr	Val	50	55	60	
Ile	Leu	Leu	Ile	Ser	Lys	Gly	Lys	Ser	Ser	His	Ile	Leu	Val	Phe	Asp	65	70	75	80
Glu	Glu	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	85	90	95	
Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile	Thr	Ile	100	105	110	
Ile	Leu	Phe	Gly	Ala	Ile	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile	Ser	115	120	125	
Leu	Gly	Ala	Met	Gly	Leu	Phe	Lys	Lys	Leu	Asp	Val	Gly	Pro	Leu	Glu	130	135	140	
Leu	Gly	Asp	Tyr	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser	145	150	155	160
Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu	Leu	Tyr	165	170	175	
Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	180	185	190	
Leu	Phe	Asn	Ala	Val	Gln	Lys	Ile	Asp	Phe	Glu	His	Leu	Thr	Gly	Glu	195	200	205	
Val	Ala	Leu	Gln	Val	Phe	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser	Thr	Ser	210	215	220	
Thr	Val	Leu	Gly	Ile	Ala	Thr	Gly	Leu	Ile	Thr	Ala	Phe	Val	Leu	Lys	225	230	235	240
Thr	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala	Ile	Met	245	250	255	
Val	Leu	Met	Ala	Tyr	Leu	Ser	Phe	Met	Leu	Ala	Glu	Leu	Phe	Ser	Leu	260	265	270	
Ser	Gly	Ile	Ile	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser	His	Val	275	280	285	
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Ser	Arg	His	Val	290	295	300	
Phe	Ala	Met	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val	305	310	315	320
Gly	Thr	Asp	Ala	Leu	Asp	Phe	Thr	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	325	330	335	
Phe	Gly	Lys	Ser	Leu	Gly	Val	Ser	Ser	Val	Leu	Leu	Gly	Leu	Val	Leu	340	345	350	
Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	355	360	365	
Ser	Lys	Lys	His	Pro	Gly	Glu	Lys	Ile	Thr	Ile	Arg	Gln	Gln	Val	Val	370	375	380	
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	385	390	395	400
Phe	Asn	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly	Asn	Ala	405	410	415	
Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr	Val	Val	420	425	430	
Phe	Gly	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro	His	Arg		435	440	445	
Asn	Ala	Thr	Ser	Met	Leu	Ser	Asp	Asp	Ser	Ser	Pro	Lys	Ser	Leu	His				

450		455		460
Ser Pro Leu Leu Thr	Ser Gln Leu Ile Ser Ser Ile Glu Glu Pro Thr			
465	470	475		480
Gln Ile Pro Arg Pro Thr Asn Ile Arg Gly Glu Phe Met Thr Met Thr				
	485	490		495
Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Lys Phe Met Arg				
	500	505		510
Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro				
	515	520		525
Thr Glu Arg Ser Ser Pro Asp Leu Ser Lys Ala				
530	535			

<210> 31
 <211> 538
 <212> PRT
 <213> Zea mays

<400> 31

Met Gly Tyr Gln Val Val Ala Ala Gln Leu Lys Leu Ala Ser Ser Ala				
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Asp His Ala Ser Val Val Ile Ile Thr Leu Phe Val Ala Leu Leu Cys				
	20	25	30	
Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Leu Asn				
	35	40	45	
Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Gly Thr Gly Val Val Ile				
	50	55	60	
Leu Leu Ile Ser Arg Gly Lys Asn Ser Arg Leu Leu Val Phe Ser Glu				
65	70	75	80	
Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly				
	85	90	95	
Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Met Thr Ile Thr				
	100	105	110	
Leu Phe Gly Ala Val Gly Thr Met Ile Ser Phe Phe Thr Ile Ser Leu				
	115	120	125	
Gly Ala Ile Ala Thr Phe Ser Arg Met Ser Ile Gly Thr Leu Asp Val				
	130	135	140	
Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser Val				
145	150	155	160	
Cys Thr Leu Gln Val Leu His Gln Asp Glu Thr Pro Phe Leu Tyr Ser				
	165	170	175	
Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Leu				
	180	185	190	
Phe Asn Ala Val Gln Lys Ile Gln Phe Thr His Ile Asn Ala Trp Thr				
	195	200	205	
Ala Leu Gln Leu Ile Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser Thr				
	210	215	220	
Leu Leu Gly Ile Gly Thr Gly Leu Ile Thr Ala Phe Val Leu Lys Lys				
225	230	235	240	
Leu Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met Ile				
	245	250	255	
Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ser Leu Ser				
	260	265	270	
Gly Leu Leu Thr Val Phe Phe Cys Gly Val Leu Met Ser His Val Thr				
	275	280	285	
Trp His Asn Val Thr Glu Ser Ser Arg Thr Thr Ser Arg His Val Phe				
290	295	300		

Ala	Thr	Leu	Ser	Phe	Ile	Ser	Glu	Thr	Phe	Ile	Phe	Leu	Tyr	Val	Gly
305					310					315					320
Met	Asp	Ala	Leu	Asp	Phe	Glu	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	Phe
				325					330					335	
Gly	Gly	Thr	Leu	Gly	Val	Ser	Gly	Val	Leu	Met	Gly	Leu	Val	Met	Leu
			340					345					350		
Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	Ala
		355					360					365			
Lys	Lys	His	Gln	Ser	Glu	Lys	Ile	Ser	Phe	Arg	Met	Gln	Val	Val	Ile
	370					375				380					
Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala	Leu	Ala	Leu
385					390					395					400
Asn	Lys	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	His	Gly	Asn	Ala	Ile
			405						410					415	
Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser	Thr	Met	Val	Phe
			420					425					430		
Gly	Met	Ile	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu	Leu	Pro	Ala	Ser	Gly
		435					440					445			
His	Pro	Arg	Glu	Leu	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser	Phe	His	Ser
	450					455				460					
Pro	Leu	Leu	Thr	Ser	Gln	Gln	Gly	Ser	Asp	Leu	Glu	Ser	Thr	Thr	Asn
465					470				475						480
Ile	Val	Arg	Pro	Ser	Ser	Leu	Arg	Gly	Leu	Leu	Thr	Lys	Pro	Thr	His
			485					490						495	
Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Leu	Met	Arg	Pro
			500					505					510		
Val	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Thr
		515				520						525			
Glu	Arg	Asn	Pro	Pro	Asp	Leu	Ser	Lys	Ala						
	530					535									

<210> 32
 <211> 545
 <212> PRT
 <213> Zea mays

<400> 32															
Met	Ser	Met	Gly	Tyr	Gln	Val	Val	Ala	Ala	Gln	Leu	Lys	Val	Ala	Ser
1				5					10					15	
Ser	Ala	Asp	His	Ala	Ser	Val	Val	Ile	Ile	Thr	Leu	Phe	Val	Ala	Leu
			20					25					30		
Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp
		35					40					45			
Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly	Gly
		50				55					60				
Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu	Val	Phe
65					70				75						80
Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Ile
				85				90						95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr
			100					105					110		
Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr	Ile
		115					120					125			
Ser	Leu	Gly	Ala	Ile	Ala	Ile	Phe	Ser	Arg	Met	Asn	Ile	Gly	Thr	Leu
	130					135					140				
Asp	Val	Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp

145					150					155				160
Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	His	Gln	Asp	Glu	Thr	Pro	Phe
				165					170					175
Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
				180					185					190
Val	Leu	Phe	Asn	Ala	Val	Gln	Lys	Ile	Gln	Ile	Thr	His	Ile	Asn
		195					200					205		Ala
Glu	Val	Ala	Leu	Gln	Val	Phe	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser
	210					215					220			Thr
Ser	Thr	Leu	Leu	Gly	Ile	Ala	Thr	Gly	Leu	Ile	Thr	Ser	Phe	Val
225				230						235				Leu
Lys	Lys	Leu	Tyr	Phe	Ala	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala
				245					250					255
Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
			260					265						270
Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser
		275					280					285		His
Val	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Ser	Arg
	290					295					300			His
Val	Phe	Ala	Met	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Ile	Phe	Leu
305					310					315				320
Val	Gly	Thr	Asp	Ala	Leu	Asp	Phe	Asp	Lys	Trp	Lys	Thr	Ser	Ser
				325					330					335
Ser	Phe	Gly	Gly	Thr	Leu	Gly	Val	Ser	Ala	Leu	Ile	Met	Ala	Leu
		340					345					350		Val
Leu	Leu	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Val	Leu	Thr
		355					360					365		Asn
Phe	Ser	Asn	Lys	His	Glu	Asn	Glu	Ser	Ile	Thr	Phe	Lys	His	Gln
	370					375					380			Val
Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala
385					390					395				400
Ala	Phe	Lys	Gln	Phe	Thr	Tyr	Ser	Gly	Val	Thr	Leu	Asp	Pro	Val
				405					410					415
Ala	Ala	Met	Val	Thr	Asn	Thr	Thr	Ile	Val	Val	Leu	Phe	Thr	Thr
			420					425					430	Leu
Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Leu	Leu	Met	Pro
	435						440					445		His
Arg	His	Leu	Thr	Met	Leu	Ser	Asp	Asp	Ser	Thr	Pro	Lys	Ser	Leu
	450					455					460			His
Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Asp	Leu	Glu	Glu	Pro
465					470					475				480
Asn	Ile	Pro	Arg	Pro	Ser	Ser	Ile	Arg	Gly	Glu	Phe	Leu	Thr	Met
				485					490					495
Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Phe	Met
			500					505					510	Arg
Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Val	Val	Pro	Gly	Ser
		515					520					525		Pro
Ile	Glu	Arg	Ser	Val	Pro	Gln	Trp	Ser	Glu	Glu	Ala	His	Asn	Lys
	530					535					540			Glu
Pro														
545														

<210> 33
 <211> 541
 <212> PRT
 <213> Zea mays

<400> 33

Met	Gly	Leu	Gly	Val	Val	Ala	Glu	Leu	Val	Arg	Leu	Gly	Val	Leu	Ser
1				5					10					15	
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val	Ala
			20					25					30		
Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Val	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr	Gly
	50					55					60				
Val	Val	Ile	Leu	Leu	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Ile	Leu	Val
65					70					75					80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
				85					90					95	
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met
		100						105					110		
Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr
	115					120						125			
Ile	Ser	Leu	Gly	Ala	Leu	Gly	Leu	Ile	Ser	Arg	Leu	Asn	Ile	Gly	Ala
	130					135					140				
Leu	Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu	Gly	Ala	Ile	Phe	Ser	Ala	Thr
145				150						155					160
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Phe
			165						170					175	
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser
		180						185					190		
Val	Val	Val	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Ile	Thr	His	Ile	Asp
	195						200					205			
Ala	Glu	Val	Val	Phe	His	Leu	Leu	Gly	Asn	Phe	Phe	Tyr	Leu	Phe	Leu
	210					215					220				
Leu	Ser	Thr	Val	Leu	Gly	Val	Ala	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val
225				230						235					240
Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val	Ala
			245						250					255	
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu	Phe
		260						265					270		
Ala	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Gly	Cys	Ile	Val	Met	Ser
	275					280						285			
His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Thr	Lys
	290				295						300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Leu	Ala	Glu	Thr	Phe	Leu	Phe	Leu
305				310						315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Asp	Lys	Trp	Arg	Ser	Val	Ser
			325						330					335	
Asp	Thr	Pro	Gly	Lys	Ser	Leu	Ala	Ile	Ser	Ser	Ile	Leu	Met	Gly	Leu
		340						345					350		
Val	Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser
	355					360						365			
Asn	Leu	Ala	Lys	Lys	Thr	Glu	His	Glu	Lys	Ile	Ser	Trp	Lys	Gln	Gln
	370					375					380				
Val	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala
385				390						395					400
Leu	Ala	Tyr	Lys	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly
			405						410					415	
Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr
		420						425					430		
Met	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro

		435					440				445						
His	Arg	Asn	Ala	Thr	Ser	Met	Leu	Ser	Asp	Asp	Ser	Ser	Pro	Lys	Ser		
	450						455				460						
Leu	His	Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Gly	Ser	Asp	Leu	Glu	Glu		
465						470				475					480		
Pro	Thr	Asn	Ile	Pro	Arg	Pro	Ser	Ser	Ile	Arg	Gly	Glu	Phe	Leu	Thr		
			485						490					495			
Met	Thr	Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Phe		
			500					505					510				
Met	Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly		
		515					520					525					
Ser	Pro	Thr	Glu	Arg	Asn	Pro	Pro	Asp	Leu	Ser	Lys	Ala					
	530					535					540						

<210> 34

<211> 543

<212> PRT

<213> Gossypium hirsutum

<400> 34

Met	Val	Ala	Pro	Gln	Leu	Ala	Ala	Val	Phe	Thr	Lys	Leu	Gln	Thr	Leu		
1				5					10					15			
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Met	Asn	Ile	Phe	Val	Ala		
			20					25					30				
Leu	Leu	Cys	Ala	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg		
		35					40					45					
Trp	Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Val	Phe	Thr	Gly		
	50					55					60						
Val	Ile	Ile	Leu	Leu	Thr	Ser	Gly	Gly	Lys	Ser	Ser	His	Leu	Leu	Val		
65					70				75						80		
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe		
			85					90						95			
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile		
			100					105					110				
Thr	Ile	Met	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Cys	Thr	Ile		
	115						120					125					
Ile	Ser	Leu	Gly	Val	Ile	Asn	Phe	Phe	Lys	Glu	Met	Asp	Ile	Gly	Ser		
	130					135					140						
Leu	Asp	Ile	Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr		
145					150					155					160		
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu		
			165						170					175			
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser		
			180					185					190				
Val	Val	Leu	Phe	Asn	Ala	Ile	Gln	Ser	Phe	Asp	Leu	Val	Asn	Thr	Ser		
	195						200					205					
Pro	Arg	Ile	Leu	Leu	Glu	Phe	Ile	Gly	Ser	Phe	Leu	Tyr	Leu	Phe	Leu		
	210					215					220						
Ala	Ser	Thr	Met	Leu	Gly	Val	Ile	Val	Gly	Leu	Val	Ser	Ala	Tyr	Ile		
225					230					235					240		
Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Phe	Ala		
			245						250					255			
Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Ile	Met	Ala	Glu	Leu	Phe		
		260						265					270				
Tyr	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met	Ser		
	275					280						285					

His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr	Lys
290						295					300				
His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Thr	Phe	Leu	Phe	Leu
305					310					315					320
Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Met	Glu	Lys	Trp	Arg	Phe	Val	Ser
			325						330					335	
Asp	Ser	Pro	Gly	Thr	Ser	Val	Ala	Val	Ser	Ala	Val	Leu	Met	Gly	Leu
			340					345					350		
Val	Met	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser
		355					360					365			
Asn	Leu	Ala	Lys	Lys	Ser	Thr	Ser	Glu	Lys	Ile	Ser	Phe	Arg	Glu	Gln
370						375					380				
Ile	Ile	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Met	Ala
385					390					395					400
Leu	Ala	Tyr	Asn	Gln	Phe	Thr	Arg	Gly	Gly	His	Thr	Gln	Leu	Arg	Gly
			405					410						415	
Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Ile	Val	Leu	Phe	Ser	Thr
		420					425					430			
Val	Val	Phe	Gly	Leu	Met	Thr	Lys	Pro	Leu	Ile	Arg	Phe	Leu	Leu	Pro
		435					440				445				
His	Pro	Lys	Pro	Thr	Ala	Ser	Met	Leu	Ser	Asp	Gln	Ser	Thr	Pro	Lys
450					455					460					
Ser	Met	Glu	Ala	Pro	Phe	Leu	Gly	Ser	Gly	Gln	Asp	Ser	Phe	Asp	Asp
465					470					475					480
Ser	Leu	Ile	Gly	Val	His	Arg	Pro	Asn	Ser	Ile	Arg	Ala	Leu	Leu	Thr
			485					490						495	
Thr	Pro	Ala	His	Thr	Val	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asn	Ala
			500					505					510		
Phe	Met	Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro
		515					520					525			
Gly	Ser	Pro	Thr	Glu	Arg	Ser	Glu	Pro	Asn	Leu	Pro	Gln	Trp	Gln	
530						535					540				

<210> 35

<211> 557

<212> PRT

<213> Suaeda maritima

<400> 35

Met	Trp	Ser	Gln	Leu	Ser	Ser	Phe	Phe	Ala	Ser	Lys	Met	Asp	Met	Val
1				5					10					15	
Ser	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Met	Asn	Leu	Phe	Val	Ala
			20					25				30			
Leu	Leu	Cys	Gly	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
		35					40					45			
Trp	Met	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Leu	Ile	Gly	Leu	Ser	Thr	Gly
	50					55					60				
Ile	Ile	Ile	Leu	Leu	Ile	Ser	Gly	Gly	Lys	Ser	Ser	His	Leu	Leu	Val
65					70					75					80
Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe
			85					90					95		
Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ile
		100						105					110		
Thr	Ile	Ile	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Val	Ser	Phe	Ile	Ile
		115					120					125			
Ile	Ser	Leu	Gly	Ser	Ile	Ala	Ile	Phe	Gln	Lys	Met	Asp	Ile	Gly	Ser

130	135	140																	
Leu	Glu	Leu	Gly	Asp	Leu	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ala	Ala	Thr				
145		150			155					155					160				
Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro	Leu				
		165							170						175				
Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser				
		180						185					190						
Val	Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	Phe	Asp	Leu	Thr	His	Ile	Asp				
		195					200					205							
His	Arg	Ile	Ala	Tyr	Arg	Ile	Ala	Phe	Gln	Phe	Gly	Gly	Asn	Phe	Leu				
210						215					220								
Tyr	Leu	Phe	Phe	Ala	Ser	Thr	Leu	Leu	Gly	Ala	Val	Thr	Gly	Leu	Leu				
225					230					235					240				
Ser	Ala	Tyr	Val	Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Asp				
		245							250						255				
Arg	Glu	Val	Ala	Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu				
		260						265					270						
Ala	Glu	Leu	Phe	Tyr	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly				
		275					280					285							
Ile	Val	Met	Ser	His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg				
290						295					300								
Val	Thr	Thr	Lys	His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Val	Ala	Glu	Ile				
305					310					315					320				
Phe	Ile	Phe	Leu	Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp				
		325							330					335					
Arg	Phe	Val	Ser	Asp	Ser	Pro	Gly	Thr	Ser	Val	Ala	Val	Ser	Ser	Ile				
		340						345					350						
Leu	Leu	Gly	Leu	Leu	Met	Val	Gly	Arg	Ala	Leu	Leu	Phe	Ser	Leu	Val				
		355					360					365							
Phe	Leu	Met	Asn	Leu	Ser	Lys	Lys	Ser	Asn	Ser	Glu	Lys	Val	Thr	Phe				
370						375					380								
Asn	Gln	Gln	Ile	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val				
385					390					395					400				
Ser	Val	Ala	Leu	Ala	Tyr	Asn	Gln	Phe	Ser	Arg	Ser	Gly	His	Thr	Gln				
		405						410					415						
Leu	Arg	Gly	Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu				
		420						425					430						
Phe	Ser	Thr	Met	Val	Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Leu	Phe				
		435					440					445							
Met	Leu	Pro	Gln	Pro	Lys	His	Phe	Thr	Ser	Ala	Ser	Thr	Val	Ser	Asp				
450					455						460								
Leu	Gly	Ser	Pro	Lys	Ser	Phe	Ser	Leu	Pro	Leu	Glu	Asp	Arg	Gln					
465					470					475				480					
Asp	Ser	Glu	Ala	Asp	Leu	Gly	Asn	Asp	Asp	Glu	Glu	Ala	Tyr	Pro	Arg				
		485						490					495						
Gly	Thr	Ile	Ala	Arg	Pro	Thr	Ser	Leu	Arg	Met	Leu	Leu	Asn	Ala	Pro				
		500						505					510						
Thr	His	Thr	Val	His	His	Tyr	Trp	Arg	Arg	Phe	Asp	Asp	Tyr	Phe	Met				
		515					520					525							
Arg	Pro	Val	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser				
530					535					540									
Pro	Thr	Glu	Gln	Ser	Thr	Thr	Asn	Leu	Ser	Gln	Arg	Thr							
545					550					555									

<210> 36
 <211> 538

<212> PRT

<213> Hordeum vulgare

<400> 36

Met	Ala	Phe	Glu	Val	Val	Ala	Ala	Gln	Leu	Ala	Arg	Leu	Ser	Asp	Ala
1				5					10					15	
Leu	Ala	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val
			20					25					30		
Ala	Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn
		35					40					45			
Arg	Trp	Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr
	50					55					60				
Gly	Val	Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu
65					70					75					80
Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile
				85					90					95	
Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe
		100						105					110		
Met	Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe
		115					120					125			
Thr	Ile	Ser	Leu	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Lys	Met	Asn	Ile	Gly
	130					135					140				
Thr	Leu	Asp	Val	Ser	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala
145					150					155					160
Thr	Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Asn	Gln	Asp	Glu	Thr	Pro
				165					170					175	
Phe	Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr
		180						185					190		
Ser	Val	Val	Leu	Phe	Asn	Ala	Leu	Gln	Asn	Phe	Asp	Pro	Asn	Gln	Ile
		195					200					205			
Asp	Ala	Ile	Val	Ile	Leu	Lys	Phe	Leu	Gly	Asn	Phe	Cys	Tyr	Leu	Phe
	210					215					220				
Val	Ser	Ser	Thr	Phe	Leu	Gly	Val	Phe	Ser	Gly	Leu	Leu	Ser	Ala	Tyr
225					230					235					240
Ile	Ile	Lys	Lys	Leu	Tyr	Ile	Gly	Arg	His	Ser	Thr	Asp	Arg	Glu	Val
				245					250					255	
Ala	Leu	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	Tyr	Met	Leu	Ala	Glu	Leu
		260						265					270		
Leu	Asp	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	Phe	Cys	Gly	Ile	Val	Met
	275						280					285			
Ser	His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Val	Thr	Thr
	290					295						300			
Lys	His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe
305					310					315					320
Leu	Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile	Glu	Lys	Trp	Lys	Phe	Ala
				325					330					335	
Ser	Asp	Ser	Pro	Gly	Lys	Ser	Ile	Gly	Ile	Ser	Ser	Ile	Leu	Leu	Gly
		340						345					350		
Leu	Val	Leu	Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu
		355					360					365			
Ser	Asn	Leu	Thr	Lys	Lys	Thr	Glu	Leu	Glu	Lys	Ile	Ser	Trp	Arg	Gln
	370					375					380				
Gln	Ile	Val	Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile
385					390					395					400
Ala	Leu	Ala	Tyr	Asn	Lys	Phe	Thr	Arg	Ser	Gly	His	Thr	Gln	Leu	His
				405					410					415	
Gly	Asn	Ala	Ile	Met	Ile	Thr	Ser	Thr	Ile	Thr	Val	Val	Leu	Phe	Ser

			420					425					430			
Thr	Met	Leu	Phe	Gly	Ile	Leu	Thr	Lys	Pro	Leu	Ile	Arg	Phe	Leu	Leu	
		435						440				445				
Pro	Ala	Ser	Ser	Asn	Gly	Asp	Pro	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser	
	450					455					460					
Leu	His	Ser	Pro	Leu	Leu	Thr	Ser	Met	Leu	Gly	Ser	Asp	Met	Glu	Ala	
465					470					475					480	
Pro	Leu	Pro	Ile	Val	Arg	Pro	Ser	Ser	Leu	Arg	Met	Leu	Ile	Thr	Lys	
			485						490					495		
Pro	Thr	His	Thr	Ile	His	Tyr	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Ala	Leu	
		500						505					510			
Met	Arg	Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Tyr	Ser	Pro	Gly	
		515					520					525				
Ser	Pro	Thr	Asp	Pro	Asn	Val	Ile	Val	Ala							
	530					535										

<210> 37

<211> 540

<212> PRT

<213> Hordeum brevisubulatum

<400> 37

Met	Gly	Trp	Gly	Leu	Gly	Asp	Pro	Pro	Ala	Asp	Tyr	Gly	Ser	Ile	Met	
1				5					10					15		
Ala	Val	Gly	Leu	Phe	Val	Ala	Leu	Met	Cys	Ile	Cys	Ile	Ile	Val	Gly	
		20						25					30			
His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Met	Asn	Glu	Ser	Thr	Thr	Ala	Leu	
		35					40					45				
Leu	Leu	Gly	Leu	Gly	Ala	Gly	Thr	Val	Ile	Leu	Phe	Ala	Ser	Ser	Gly	
	50					55					60					
Lys	Asn	Ser	Arg	Leu	Met	Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	
65					70				75						80	
Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	
				85					90					95		
Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr	Ile	Thr	Leu	Phe	Ala	Val	Val	Gly	
			100					105					110			
Thr	Leu	Ile	Ser	Phe	Ser	Ile	Ile	Ser	Leu	Gly	Ala	Met	Gly	Leu	Ile	
		115					120					125				
Ser	Arg	Leu	Asn	Ile	Gly	Ala	Leu	Glu	Leu	Gly	Asp	Tyr	Leu	Ala	Leu	
	130					135					140					
Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	
145					150					155					160	
Ser	Gln	Asp	Glu	Thr	Pro	Phe	Leu	Tyr	Ser	Leu	Val	Phe	Gly	Glu	Gly	
			165					170						175		
Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	Leu	Phe	Asn	Ala	Ile	Gln	Asn	
		180						185					190			
Phe	Asp	Leu	Gly	Asn	Phe	Ser	Ser	Leu	Lys	Phe	Leu	Gln	Phe	Ile	Gly	
	195						200					205				
Asn	Phe	Leu	Tyr	Leu	Phe	Gly	Ala	Ser	Thr	Phe	Leu	Gly	Val	Ala	Ser	
	210					215						220				
Gly	Leu	Leu	Ser	Ala	Tyr	Val	Ile	Lys	Lys	Leu	Tyr	Phe	Gly	Arg	His	
225					230					235					240	
Ser	Thr	Asp	Arg	Glu	Val	Ala	Ile	Met	Met	Leu	Met	Ala	Tyr	Leu	Ser	
			245						250					255		
Tyr	Met	Leu	Ala	Glu	Leu	Leu	Asp	Leu	Ser	Gly	Ile	Leu	Thr	Val	Phe	
		260						265					270			

Phe	Cys	Gly	Ile	Val	Met	Ser	His	Tyr	Thr	Trp	His	Asn	Val	Thr	Glu
		275					280					285			
Ser	Ser	Arg	Val	Thr	Thr	Lys	His	Ala	Phe	Ala	Thr	Leu	Ser	Phe	Ile
		290				295					300				
Ser	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val	Gly	Met	Asp	Ala	Leu	Asp	Ile
305					310					315					320
Glu	Lys	Trp	Lys	Ile	Val	Ser	Glu	Thr	Tyr	Ser	Pro	Met	Lys	Ser	Ile
				325					330					335	
Thr	Leu	Ser	Ser	Ile	Ile	Leu	Ala	Leu	Val	Leu	Val	Ala	Arg	Ala	Ala
			340					345					350		
Phe	Val	Phe	Pro	Leu	Ser	Tyr	Leu	Ser	Asn	Leu	Thr	Lys	Lys	Thr	Ala
		355				360						365			
Gly	Glu	Lys	Ile	Ser	Ile	Arg	Gln	Gln	Val	Ile	Ile	Trp	Trp	Ala	Gly
370					375					380					
Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	Tyr	Asn	Lys	Phe	Ala
385					390					395					400
Lys	Ser	Gly	His	Thr	Gln	Leu	Pro	Ser	Asn	Ala	Ile	Met	Ile	Thr	Ser
			405						410					415	
Thr	Ile	Ile	Ile	Val	Leu	Phe	Ser	Thr	Ile	Val	Phe	Gly	Leu	Leu	Thr
			420					425					430		
Lys	Pro	Leu	Ile	Arg	Leu	Leu	Ile	Pro	Ala	Arg	His	Leu	Thr	Arg	Glu
		435					440					445			
Val	Ser	Ala	Leu	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ser	Phe	Leu	Glu	Gln
		450				455					460				
Leu	Thr	Val	Asn	Gly	Pro	Glu	Thr	Asp	Val	Glu	Asn	Gly	Val	Ser	Ile
465				470						475					480
Arg	Arg	Pro	Thr	Ser	Leu	Arg	Met	Leu	Leu	Ala	Ser	Pro	Thr	Arg	Ser
				485					490					495	
Val	His	His	Tyr	Trp	Arg	Lys	Phe	Asp	Asn	Ala	Phe	Met	Arg	Pro	Val
			500					505					510		
Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro	Thr	Glu
		515					520					525			
Ser	Ser	Val	Pro	Leu	Leu	Ala	His	Gly	Ser	Glu	Asn				
		530				535					540				

<210> 38

<211> 546

<212> PRT

<213> Hordeum vulgare

<400> 38

Met	Gly	Pro	Asp	Leu	Gly	Ala	Leu	Ala	Leu	Arg	Tyr	Thr	Gly	Leu	Ala
1				5					10					15	
Val	Ser	Asp	His	Asp	Ser	Ile	Val	Ala	Ile	Asn	Ile	Phe	Ile	Ala	Leu
			20					25					30		
Leu	Cys	Gly	Cys	Ile	Val	Phe	Gly	His	Leu	Leu	Glu	Gly	Asn	Arg	Trp
		35					40					45			
Val	Asn	Glu	Ser	Thr	Thr	Ala	Ile	Val	Leu	Gly	Leu	Ile	Thr	Gly	Gly
		50				55					60				
Val	Ile	Leu	Leu	Cys	Thr	Lys	Gly	Val	Asn	Ser	Arg	Ile	Leu	Ile	Phe
65					70					75					80
Ser	Glu	Asp	Ile	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn
				85					90					95	
Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Ala	Thr
			100					105					110		
Ile	Ile	Leu	Phe	Gly	Ala	Val	Gly	Thr	Leu	Ile	Ser	Phe	Val	Ile	Ile

